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Why Alternate Fuel Plan Worries Industry
Why Scarce UST Loans Concern Jobbers
How To Select Prime Locations

NPN

National Petroleum News

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How Franchisees, Operations Revamp Pulled Gascard From Bankruptcy To Profitability

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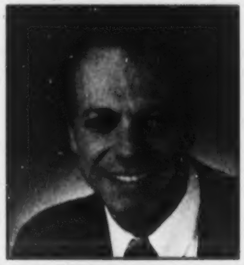

Editor's Viewpoint

Your pick: You can be shot in the head or shot in the heart. Either way...

Those options aren't too far from what we'll have if methanol becomes the alternate fuel of choice—and there are strong supporters for just that.

The motive behind the idea is good: cleanse pollution from our air and protect the ozone layer because without it there's nothing to filter the sun's most dangerous rays and we're all Kentucky Fried Chicken. Then there's the "greenhouse effect," which, among other things, threatens to melt the polar ice caps, so anyone who escapes the frying pan better learn to swim.

Using an alternative to gasoline would help because gasoline emissions contribute to our atmospheric problems. Gasoline has other drawbacks, too. Most of us are well aware of them by now, so why beat a dead horse?

But is methanol the answer? Here's information from the American Petroleum Institute which has not received the publicity it deserves.

- Methanol is extremely toxic when ingested or absorbed through the skin. Ingesting just 2-oz. can be fatal; ingesting 1/8-oz. (you can put that in an eyedropper) can cause blindness. There have been cases of people going blind after continuing to wear clothing on which methanol had been spilled.
- Being water soluble, methanol disperses rapidly into the ground, making spill control difficult and groundwater contamination a dangerous threat.
- Methanol emissions have formaldehyde, a probable cancer causing agent.
- At normal temperatures, 100% methanol can form an explosive mixture in confined spaces.
- Methanol corrodes metals and synthetic materials in engines and fuel systems and fires could be caused by fuel leaks in engine compartments. In addition, methanol flames are invisible in daylight and emit only a faint blue light at night. Current foams can't suppress methanol fires.
- Twice as much methanol is needed to produce the same energy as gasoline, so we'd need twice as much delivered, doubling the chances of transportation accidents, spills and fires.
- Methanol is colorless and almost odorless and tasteless—virtually nothing to warn you it's there. (Let some of this get into the groundwater.)
- Making methanol from natural gas is expensive; making it from coal is even more expensive and would also increase carbon dioxide emissions—a significant greenhouse effect gas.

In scrambling to satisfy panic-stricken environmental extremists, the government (starting with the President) and its agencies (mainly the EPA) have proposed a cure that's as bad, if not worse, than the disease. That's what's happens when you politicize the atmosphere. *— Frank M. Victoria*

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Gascard, the high-profile fleet fueling network, has emerged from last year's financial tailspin into a leaner, meaner and more profitable company—with a big assist from key marketer franchisees.

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Because of the reluctance of lenders, many small marketers today find themselves over a financial barrel trying to get bank loans for underground tank upgrades and station modernization. Here's why.

Page 47

Finding prime sites for retail development is a more challenging task than ever. Here's what marketers should look for before acquiring a new site or redeveloping an existing location.

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• TRENDS

New Census Figures Pose Challenge For Marketers

Not only are the oil marketing numbers in the 1987 Census of the Retail Trades disquieting (see page 23), they are literally challenging industry executives to sit down with federal officials and rewrite the specifications governing the statistics that are to be collected and tabulated every five years.

Too many important details—for oil marketers, anyhow—are being fluffed off and the outlook is for more of the same in the years ahead.

Consider the service station population, for example.

One set of figures in the national totals (which didn't make it through the collection and printing processes until six weeks ago) says there were 105,561 service stations in business at the end of 1987. Another says there were 114,748 stations. That's a difference of 9,187 stations—almost as many as there are in California, the biggest gasoline consumer.

The first set of numbers is the total of stations in business at the end of the year. This is the number that the Census Bureau has been using for decades and is probably a more accurate barometer of the service station population than the second set, which is a new floating count that focuses on the number of stations in business at any given time during the year—in other words, the high water mark, not the world that was on December 31 of any given year.

Using California statistics as an example of why the year-end numbers are too important to be discontinued, it should be noted that the December 31 total is 9,127 vs. the floating number of 9,812—a negative difference of 685 stations, nearly 7%. Nominally, a 7% error in calculating the number of one's competitors could be akin to Russian Roulette in planning.

That 105,561 total also says the service station population decline has been rougher than other figures that had been projected for 1987—a difference of 10,000 stations. If that decline continued in 1988 and 1989, it could mean that the national total of service stations is down to maybe 100,000, the lowest it has been since 1925 or thereabouts. That's 126,000 fewer than the peak year of 1972. It's not a matter of concern in one sense. There's no problem with gasoline supply and available facilities. Motorists' needs are taken care of quickly and efficiently.

But the figures themselves are misleading. Until the early 1970s, probably 99% of the gasoline sold was vended through service stations. The service station count then was an accurate reflection of the gasoline universe of the time. But then a new element appeared—convenience stores with gasoline pumps. There are now about 40,000 of these stores but they aren't recognized in the service station count because more of their revenues are from groceries than gasoline; so therefore, under Census Bureau regulations, they are identified as convenience stores, not gasoline outlets.

Another factor of importance: in the early '70s, the Census Bureau count was a respectable universe of gasoline marketing. In 1982, through oversight, the Census Bureau counted only the stations with payrolls, dropping all the "Moms-and-Pops" and smaller family affairs in the process (a factor of 10% to 15%).

It did this again in 1987. It now proposes to drop the year-end numbers in its 1992 census. Rather than a relatively true count of the service station population in 1992, all the industry will be getting in the '90s are the totals for service stations with payrolls only and a variable, high-water count at that. The statistics would be generally meaningless since they would be an image of only about half of gasoline marketing.

Service station population figures are a real mess right now. What's desperately needed is a government or industry/government procedure to count all gasoline marketers, not just some of them. The same applies to fuel oil and LPG, two other marketing areas with haphazard statistics. The time to do it is now. Washington people will tell you it takes three-to-five years to get bureaucracies to accept changes and implement them.

—by J. Richard Shaner

• MARKETPLACE AT A GLANCE

AVERAGE GASOLINE PRICES IN THE U.S. (per gal.)

	Gasoline (All types)	**Leaded Regular**	**Unleaded Regular**	**Unleaded Premium**
U.S. City Avg.	$1.096	$1.034	$1.057	$1.233
Regions:				
Northeast	1.119	1.047	1.062	1.262
North Central	1.081	1.028	1.050	1.231
South	1.082	1.034	1.037	1.195
West	1.110	1.035	1.090	1.273

Source: U.S. Dept. of Labor, Bureau of Labor Statistics

STOCKS (Add 000 bbl.)

	9/29/89	**9/30/88**
Gasoline (Total)	223,741	221,535
Gasoline (Unleaded)*	161,175	141,432
Jet Kerosine	40,065	41,537
Distillates	122,923	129,833
Residual	44,792	44,364

**Included in gasoline total*

Source: American Petroleum Institute

NPN

NATIONAL PETROLEUM NEWS **NOVEMBER 1989**

Federal Survey Indicates Fewer Gasoline Stations—But Doubts Remain

The eagerly awaited state and national summaries of the 1987 Census of Retail Trades were released in late September and the statistics weren't exactly happy reading for petroleum marketers. However, the methodology of the study and recent informal research by NPN indicate that the Census figures may present a less than full and accurate picture.

The latest study, a quinquennial effort mandated by Congress and made by the Commerce Department's Bureau of the Census, showed serious declines in population counts and sales totals as well as substantial increases in cost factors such as payrolls and employees (see summaries in Chart A and tables).

As a matter of fact, the 1987 retail service station population erosion was worse than had been projected by other government and industry estimates.

For example, the variable count for 1987 in the current census was 114,748 stations. The unofficial count for 1987 from other sources was 115,870 stations by way of comparison—a negative difference of 1,120 establishments [*NPN* Factbook—'88, p135, and *NPN* Factbook—'89, p126].

But the most telling blow of all was the year-end total that has been the official barometer for several decades. Census Bureau said this total was 105,561 stations at the end of 1987, down 9.1%. This year-end number is 10,309 stations below the 115,870 previously believed to be a reasonably accurate outlet projection for 1987.

Service station numbers and sales are down, according to the Census Bureau, but the data may be incomplete.

Numbers game confusion

The 1987 census did little to help resolve the gray-area confusion over the actual number of retail service stations in the U.S. To the contrary, it muddied the situation a bit more and said the direction it is going for the 1992 survey will make growth-decline comparisons with the past almost impossible then and in future years.

It didn't help either in trying to come up with a nose count of retail gasoline outlets, i.e., places where motorists can buy

CHART A

The 1987 Census: A Bird's Eye View Of The Principal Findings (a)

	1987	% Chng. vs 1982
GASOLINE STATIONS		
No. of establishments (variable)	114,748	-9.4%
No. of establishments (year-end)	105,561	-9.1%
Total sales (billion $)	$102.0	+7.7%
Average per establishment	$888,882	+18.9%
Total payrolls (billion $)	$6.4	+34.5%
Average per establishment	$55,894	+48.5%
Total employees	701,690	+16.2%
Average per establishment	6	+1
FUEL OIL DEALERS		
No. of establishments (variable)	5,816	-8.7
No. of establishments (year-end)	5.511	-9.1
Total sales (billion $)	$9.3	-20.9
Average per establishment	$1,598,025	-13.4
Total payrolls (billion $)	$1.6	+27.6
Average per establishment	$182,090	+39.9
Total employees	54,035	+2.8
Average per establishment	9	+1
LPG DEALERS		
No. of establishments (variable)	6,378	+4.3
No. of establishments (year-end)	6,073	+3.0
Total sales (billion $)	$4.8	-0.7
Average per establishment	$747,775	-4.8
Total payrolls (million $)	$746.0	+37.1
Average per establishment	$116,959	+31.5
Total employees	43,045	+9.6
Average per establishment	7	+1

(a) Traditionally, Census Bureau has used year-end totals as its official count for establishments. The 1987 census introduced a new approach, the number of stations in existence at any given time. In other words, a peak (or variable) count. By way of explanation, note that the year-end total of gasoline establishments (above) is only 105,561 while the variable (floating) total is 114,748. Census Bureau says the year-end count will be dropped in future censuses.

U.S. Census Data: Service Stations With Payrolls, 1987 vs. 1982(a)
Compiled by National Petroleum News

	Establishments (b)				Dollar Sales						Annual Payroll ($)			No. of Employees			Average	
	Variable		Year-End		(Add 000)		%	Per Establishment		%	(Add 000)		%			%	Per Station	
	1967	1982	1987	1982	1987	1982	Chng.	1987	1982	Chng.	1987	1982	Chng.	1987	1982	Chng.	1987	1982
Alabama	2,229	2,206	2,048	2,003	1,452,893	1,173,199	23.8	651,814	531,842	22.6	90,542	54,881	55.0	10,256	7,629	34.4	5	4
Alaska	214	188	184	176	179,436	205,846	(12.8)	838,486	1,094,926	(23.4)	16,510	15,684	5.3	1,197	1,219	(2.0)	5	6
Arizona	1,241	1,320	1,151	1,204	1,584,575	1,308,398	21.3	1,276,853	989,695	29.0	100,687	62,277	61.7	10,430	7,544	38.3	8	6
Arkansas	1,357	1,381	1,320	1,216	942,262	759,692	24.0	694,371	550,103	26.2	61,217	40,596	50.8	7,626	5,313	43.5	6	4
California	9,812	11,426	9,127	10,625	10,742,275	10,531,345	2.0	1,094,810	921,700	18.8	654,279	517,774	26.4	71,074	64,727	9.8	7	6
Colorado	1,568	1,787	1,455	1,570	1,533,021	1,429,634	7.2	976,416	800,019	22.0	96,955	70,850	36.8	10,145	9,404	7.9	7	5
Connecticut	1,671	1,884	1,531	1,728	1,656,222	1,447,769	14.4	991,156	768,458	29.0	119,781	84,407	41.9	10,898	9,969	9.3	7	5
Delaware	279	336	250	302	284,901	267,883	6.4	1,021,151	797,271	28.1	17,792	11,839	50.3	1,897	1,583	19.8	7	5
District of Columbia	115	174	96	158	129,050	180,038	(28.3)	1,122,174	1,034,701	8.5	8,568	10,124	(15.4)	917	1,137	(19.3)	8	7
Florida	5,933	5,922	5,329	5,504	5,528,589	4,775,575	15.8	931,832	796,992	16.9	340,281	243,274	39.9	37,187	29,382	26.7	6	5
Georgia	3,273	3,371	3,020	3,075	2,987,099	2,381,548	25.4	912,649	886,117	3.0	197,924	115,593	71.2	21,288	14,759	44.2	7	4
Hawaii	355	389	341	366	472,232	400,101	6.8	1,330,231	1,028,537	29.3	39,024	28,549	36.7	3,974	3,684	7.9	11	9
Idaho	558	552	512	494	443,888	352,934	25.8	795,498	639,373	24.4	26,059	16,753	55.5	3,202	2,408	33.0	6	4
Illinois	4,655	5,624	4,294	5,139	4,624,773	4,590,806	0.7	993,506	816,291	21.7	279,449	243,478	19.2	28,987	28,277	2.5	6	5
Indiana	2,854	3,476	2,634	3,167	2,640,217	2,725,444	(3.1)	925,094	784,362	17.9	154,577	129,434	19.4	17,493	16,279	7.4	6	5
Iowa	2,020	2,223	1,906	2,064	1,420,696	1,377,854	3.1	703,315	619,817	13.5	92,297	72,856	26.7	11,100	9,581	15.9	5	4
Kansas	1,576	1,650	1,320	1,547	1,140,894	1,068,672	6.5	723,918	647,680	11.8	78,130	57,704	38.5	8,238	7,127	15.6	5	4
Kentucky	2,058	2,353	1,892	2,121	1,547,016	1,552,609	(0.4)	752,806	669,842	12.4	96,077	74,814	28.8	11,559	9,682	19.4	6	4
Louisiana	1,934	2,148	1,720	1,976	1,552,367	1,537,673	1.0	802,672	715,863	12.1	90,619	78,061	16.1	10,937	10,436	4.8	6	5
Maine	673	695	613	642	551,516	388,839	42.6	819,489	559,481	46.5	37,505	20,980	78.8	3,961	2,909	36.2	6	4
Maryland	1,846	2,022	1,697	1,877	2,133,699	1,999,672	6.7	1,155,850	988,957	16.9	154,612	111,816	38.3	16,045	13,801	16.3	9	7
Massachusetts	2,738	3,902	2,541	2,963	2,516,762	2,318,660	8.5	919,197	594,223	54.7	173,734	116,426	49.2	18,077	16,662	8.5	7	4
Michigan	4,164	4,512	3,878	4,128	4,261,908	3,980,960	6.8	1,023,513	882,305	16.0	240,652	171,695	40.2	26,788	21,953	22.0	6	5
Minnesota	2,289	2,391	2,154	2,230	2,240,300	2,053,472	9.1	978,724	897,104	9.1	145,466	103,809	40.1	16,498	13,321	23.8	7	6
Mississippi	1,374	1,343	1,256	1,192	7,781,081	687,591	13.6	858,834	511,981	67.7	49,107	36,316	35.2	6,055	4,893	27.7	4	4
Missouri	3,119	3,185	2,884	3,944	2,731,085	2,228,484	22.6	869,857	699,681	24.3	175,691	117,632	49.4	19,103	14,608	30.8	5	5
Montana	548	569	493	522	403,140	387,615	4.0	735,657	681,221	8.0	25,769	21,201	21.5	2,985	2,864	4.2	5	5
Nebraska	1,163	1,200	1,077	1,129	786,392	743,238	5.8	676,175	619,635	9.1	54,480	39,206	39.0	6,043	5,158	17.2	5	4
Nevada	441	519	387	476	522,788	564,273	(7.4)	1,185,460	1,087,231	9.0	41,050	31,843	28.9	4,462	3,592	24.2	10	7
New Hampshire	534	595	499	548	491,116	397,902	23.4	919,693	668,743	37.5	33,148	20,184	64.2	3,335	2,695	23.7	6	5
New Jersey	3,791	4,530	3,433	4,159	3,140,306	3,157,557	(0.5)	828,358	697,032	18.8	213,755	162,362	31.7	22,607	20,014	13.0	6	4
New Mexico	696	854	644	770	639,911	613,590	4.3	919,412	718,489	28.0	39,822	31,647	25.8	4,510	4,159	8.4	6	5
New York	5,982	6,942	5,443	6,335	4,916,033	4,414,785	11.4	821,804	635,953	29.2	300,689	239,762	25.4	30,105	28,069	7.3	5	4
North Carolina	3,547	3,326	3,281	3,050	2,717,964	1,899,350	43.1	766,271	571,061	34.2	170,272	91,712	85.7	18,164	11,952	56.7	5	3
North Dakota	471	450	441	421	322,071	360,837	3.1	683,802	801,860	(14.7)	24,462	21,331	14.7	2,658	2,635	0.9	6	6
Ohio	5,362	6,450	4,990	5,907	4,925,010	5,309,070	(7.2)	918,502	823,112	11.6	289,710	236,958	22.3	33,703	30,740	9.6	6	5
Oklahoma	1,706	1,735	1,565	1,589	1,167,344	1,110,445	5.1	684,258	640,026	6.9	73,687	60,473	21.9	8,323	7,751	7.4	5	4
Oregon	1,352	1,655	1,201	1,492	1,043,593	1,106,679	(5.7)	787,617	668,688	17.8	67,601	58,665	15.2	8,958	7,590	18.0	7	5
Pennsylvania	5,192	6,263	4,842	5,781	4,403,251	4,272,225	3.1	848,084	682,137	24.3	271,263	207,647	30.6	31,979	29,580	8.1	6	5
Rhode Island	487	568			429,080	368,332	16.5	881,068	648,471	35.9	26,671	17,670	50.9	2,524	2,376	6.2	5	4
South Carolina	1,833	1,808	1,670	1,667	1,495,268	1,200,530	24.6	815,749	703,445	16.0	90,512	55,937	61.8	10,551	7,627	38.3	6	4
South Dakota	556	578	522	533	385,703	356,755	8.1	693,710	617,223	12.4	25,132	17,190	46.2	2,979	2,343	27.1	5	4
Tennessee	2,491	2,783	2,278	2,490	2,206,641	1,597,688	12.7	885,845	703,445	25.9	136,260	92,960	46.5	15,532	11,607	33.8	6	4
Texas	8,568	9,012	7,790	8,234	7,140,503	6,600,038	8.2	833,392	732,361	13.8	429,982	344,236	24.9	44,795	42,171	6.2	5	5
Utah	849	890	780	842	710,176	657,296	8.0	836,485	735,534	13.7	41,376	31,218	32.5	5,450	4,392	24.1	6	5
Vermont	369	397	343	359	268,569	217,379	23.5	727,829	547,554	32.9	18,432	12,339	49.4	1,941	1,731	12.1	5	4
Virginia	2,740	2,939	2,523	2,652	2,795,680	2,394,061	16.8	1,020,321	814,584	25.4	190,286	127,105	49.7	18,837	15,461	21.8	7	5
Washington	2,003	2,351	1,835	2,144	1,734,565	1,689,794	2.6	865,964	718,755	20.1	105,762	86,155	22.8	12,177	10,419	16.9	6	4
West Virginia	1,013	1,169	922	1,062	691,216	709,365	(2.6)	682,345	606,814	12.4	44,462	35,448	26.1	5,017	4,617	8.7	5	4
Wisconsin	2,735	2,896	2,581	2,701	2,282,355	2,110,502	8.1	834,499	728,765	14.5	139,510	103,685	34.6	16,760	13,921	20.4	6	5
Wyoming	415	459	384	430	305,008	398,618	(23.5)	734,959	868,448	(15.4)	22,064	22,842	(3.4)	2,363	2,475	(4.5)	6	5
TOTAL U.S.	114,748	126,688	105,561	116,188	101,997,440	94,718,664	7.7	888,882	747,771	18.9	6,413,692	4,768,497	34.5	701,690	603,886	16.2	6	5

(a) The U.S. Census Bureau makes a study of retail trades every five years. The data in this table were extracted by National Petroleum News from the state-by-state reports published in the spring, summer and fall of 1989. These are "true" service stations, which generate more than half of their revenues from the sale of gasoline and petroleum products—thus they do not include facilities at convenience stores, car washes, etc.; these are stations with payrolls and are comparable to the 1982 census reports: A special report on stations without payrolls i.e., "Mom and Pops," may be available late 1989 or early 1990.

(b) In the past, the Census Bureau counted only those stations in existence on Dec. 31; The 1987 census instituted a new count of all stations which had been in business in 1987, thus this, in effect, is the maximum number of stations in business at any one time in 1987; there may be some duplications, however, in stations which changed hands during the year and may have been counted twice or more; the Census Bureau says this new procedure will survive in future censuses and the year-end numbers will be dropped.

gasoline, diesel fuel other alcohol-enhanced fuels irregardless of what they're called. An East Coast tabulation, made by *National Petroleum News* last summer and based on official or semi-official totals provided by the various states, implied there may be twice as many retail outlets in business than most "guesstimates" account for [*NPN*—June '89, p13].

Where retail service stations are concerned, the government census-takers count only those stations that get 50% or more of their revenues from gasoline and petroleum products. This automatically eliminates convenience stores with gasoline pumps (of which there are an estimated 40,000 to 50,000), garages, car washes and mass merchandisers, to name a few exceptions.

U.S. Census Data: Fuel Oil and LPG Dealers with Payrolls—1987-1982[a]

Compiled by National Petroleum News

	Establishments Variable		Establishments Year-End		Dollar Sales (Add 000)		Dollar Sales %	Dollar Sales Per Establishment		Per Establishment %	Annual Payroll ($) (Add 000)		Annual Payroll %	No. of Employees		No. of Employees %	Average Per Est.	
	1987	1982	1987	1982	1987	1982	Chng.	1987	1982	Chng.	1987	1982	Chng.	1987	1982	Chng.	1987	1982
Alabama (total)	225	223	219	217	(x)	157,883	(x)	(x)	707,996	(x)	(x)	19,053	(x)	(x)	1,581	(x)	(x)	7
Fuel oil dealers	5	7	4	7	2.135	(x)	(x)	427,000	(x)	(x)	219	(x)	(x)	23	(x)	(x)	5	(x)
LPG dealers	212	199	207	193	157.355	148.868	1.7	713.844	748.080	4.6	25.629	18.320	39.9	1.622	1.497	8.4	8	8
Misc.*	8	17	8	17	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)
Alaska (total)	66	54	61	52	78.452	(x)	(x)	1.188.667	(x)	(x)	6.995	(x)	(x)	355	(x)	(x)	5	(x)
Fuel oil dealers	49	39	46	38	68.465	87.670	(21.9)	1.397.245	2.247.949	(37.8)	5.139	5.808	(11.5)	264	252	4.8	5	6
LPG dealers	16	12	14	12	(x)	13.302	(x)	(x)	1.108.500	(x)	(x)	1.391	(x)	(x)	80	(x)	(x)	(x)
Misc.*	1	3	1	2	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)
Arizona (total)	85	87	80	85	(x)	53.543		(x)	615.437	(x)	(x)	5.646	(x)	(x)	472	(x)	(x)	5
Fuel oil dealers	3	6	2	6	(x)	728		(x)	121.333	(x)	(x)	75	(x)	(x)	7	(x)	(x)	1
LPG dealers	77	69	74	68	66.791	50.979	31.0	867.416	738.826	17.4	9.186	5.276	74.1	559	442	26.5	7	6
Misc.*	5	12	4	11	2.103	1,836	14.5	420.600	153.000	175.0	350	295	18.6	33	23	43.5	7	2
Arkansas (total)	189	191	178	185	(x)	143.958	(x)	(x)	753.706	(x)	(x)	15.987	(x)	(x)	1.178	(x)	(x)	6
Fuel oil dealers	9	8	9	8	9.662	12.755	(24.2)	1.073.556	1.594.375	(32.7)	408	467	(12.6)	35	39	(10.3)	4	5
LPG dealers	173	176	162	170	84.997	130.211	(34.7)	491.312	739.835	(33.4)	14.015	15.338	(8.6)	891	1.119	(20.4)	5	6
Misc.*	7	7	7	7	(x)	(x)	(x)	(x)	(x)	(x)	(x)	182	(x)	(x)	(x)	(x)	(x)	(x)
California (total)	457	420	430	406	402.878	383.674	5.0	881.571	913.510	(3.5)	57.499	36.437	57.8	3.207	2.644	21.3	7	6
Fuel oil dealers	34	27	32	24	24.368	20.003	21.8	716.706	740.852	(3.3)	2.358	1.271	85.5	155	115	34.8	5	4
LPG dealers	346	326	324	319	363.539	351.729	3.4	1,050.691	1.078.923	(2.6)	52.657	33.043	59.4	2.830	2.276	24.3	8	7
Misc.*	77	67	74	63	14.971	11.946	25.3	194.429	178.299	9.0	2.484	2.123	17.0	222	253	(13.2)	3	4
Colorado (total)	133	136	125	123	(x)	76.995	(x)	(x)	566.140	(x)	(x)	6.943	(x)	(x)	566	(x)	(x)	4
Fuel oil dealers	9	9	9	8	5.714	3.111	83.7	634.889	345.667	83.7	889	189	370.4	42	19	121.1	5	2
LPG dealers	109	101	102	93	72.548	66.817	8.6	665.578	661.545	0.6	8.387	6.010	39.6	502	460	9.1	5	5
Misc.*	15	26	14	22	(x)	7.067	(x)	(x)	271.808	(x)	(x)	744	(x)	(x)	87	(x)	(x)	3
Connecticut (total)	435	444	418	423	(x)	868.989	(x)	(x)	1.957.182	(x)	(x)	71.061	(x)	(x)	3.943	(x)	(x)	9
Fuel oil dealers	379	383	367	366	744.029	816.994	(8.9)	1.963.137	2.133.143	(8.0)	95.522	63.825	49.7	4.339	3.538	22.6	11	9
LPG dealers	46	51	41	48	53.726	50.407	6.6	1.167.957	988.373	18.2	10.404	7.011	48.4	491	380	29.2	11	7
Misc.*	10	10	10	9	(x)	1.588	(x)	(x)	158.800	(x)	(x)	225	(x)	(x)	25	(x)	(x)	3
Delaware (total)	56	66	52	65	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)
Fuel oil dealers	47	51	39	51	119.841	106.702	12.3	2.549.809	2.092.196	21.9	8.392	6.196	3.2	411	440	(6.6)	9	9
LPG dealers	14	13	12	13	33.156	13.785	140.5	2.368.286	1.060.384	123.3	4.999	2.394	108.8	339	138	145.7	24	11
Misc.*	1	2	1	1	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)
District of Columbia (total)	10	14	8	10	44.222	55.735	(20.7)	4.422.200	3.980.071	11.1	4.623	4.579	1.0	212	212	–	21	15
Fuel oil dealers	9	13	8	9	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)
LPG dealers	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Misc.*	1	1	0	1	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)
Florida (total)	443	484	415	459	388.301	387,721	0.3	876.526	801,076	9.4	66.648	47,170	41.3	3.902	3.796	2.8	9	8
Fuel oil dealers	117	145	109	130	79.817	106.448	(25.0)	673.650	734.124	(8.2)	9.336	8.460	10.4	678	838	(19.1)	6	6
LPG dealers	300	314	283	305	302.631	274.511	10.2	1,008.770	874.239	15.4	55.783	37.848	47.4	3,109	2.874	8.2	10	9
Misc.*	26	25	23	24	5,853	6,292	(7.0)	225.115	251.680	(10.6)	1.529	862	77.4	115	84	36.9	4	3
Georgia (total)	336	305	317	296	237.116	222.000	6.8	705.702	727.869	(3.0)	38.216	25.005	52.8	2.274	1.939	17.3	7	6
Fuel oil dealers	14	16	20	15	15.460	21.491	(28.1)	644.167	1,343.188	(52.0)	2.129	1,041	104.5	175	104	68.3	7	7
LPG dealers	294	268	281	260	212.665	195.516	8.8	723.350	729.537	(0.9)	35.172	23.246	51.3	2.012	1.749	15.0	7	7
Misc.*	18	21	16	21	8.991	4.993	80.1	499.500	237.762	110.1	9.157	718	27.4	87	86	1.2	6	4
Hawaii (total)	8	8	8	8	(x)	795	(x)	(x)	99.375	(x)	(x)	135	(x)	(x)	13	(x)	(x)	2
Fuel oil dealers	3	1	3	1	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)
LPG dealers	3	5	3	5	(x)	682	(x)	(x)	227.333	(x)	(x)	123	(x)	(x)	10	(x)	(x)	12
Misc.*	2	2	2	2	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)
Idaho (total)	65	56	60	55	(x)	43.510	(x)	(x)	776.964	(x)	(x)	4.057	(x)	(x)	341	(x)	(x)	6
Fuel oil dealers	8	12	7	12	8,458	4.991	69.5	1,057.250	415.917	154.2	934	365	155.9	83	56	48.2	10	5
LPG dealers	45	35	42	35	33.417	35.007	(4.5)	742.600	1,000.200	(25.8)	4.604	3.489	32.0	312	269	16.0	7	8
Misc.*	12	9	11	8	(x)	3,512	(x)	(x)	390.222	(x)	(x)	203	(x)	(x)	16	(x)	(x)	2

In the 1982 census, the government unintentionally limited its survey to stations with payrolls. This killed off the data for all of the smaller stations, mostly family owned and operated. There are about 10,000 or so of these still in existence.

The 1987 census utilized the same format, i.e., only stations with payrolls. But it went a step further too. It came up with two totals in 1987—one the traditional, end-of-the-year population count, and the other sort of a peak count which, in substance, was the highest total at any given time. This then is not only a floating figure that will take only peak periods into consideration but would walk away from the Dec. 31 cutoff date for calendar year numbers. There is a big difference. For example, California is credited

U.S. Census Data: Fuel Oil and LPG Dealers with Payrolls—1987-1982[(a)] (Cont.)

Compiled by National Petroleum News

	Establishments				Dollar Sales						Annual Payroll ($)			No. of Employees			Average	
	Variable		Year-End		(Add 000)		%	Per Establishment		%	(Add 000)		%			%	Per Est.	
	1987	1982	1987	1982	1987	1982	Chng.	1987	1982	Chng.	1987	1982	Chng.	1987	1982	Chng.	1987	1982
Illinois (total)	310	333	293	323	219,337	314,120	(30.2)	707,536	943,303	(25.0)	30,677	26,431	16.1	1,754	1,718	2.1	6	5
Fuel oil dealers	69	91	61	87	72,335	135,181	(46.8)	1,048,333	1,493,198	(29.8)	6,980	6,146	13.8	404	390	3.6	6	4
LPG dealers	224	221	217	215	143,955	171,948	(16.3)	615,192	778,045	(26.5)	23,139	19,206	20.5	1,301	1,244	4.6	4	6
Misc.*	17	21	15	21	3,086	6,291	(50.9)	181,588	299,571	9.4	557	1,079	(48.4)	49	84	(41.7)	3	4
Indiana (total)	277	321	271	308	(x)	290,803	(x)	(x)	905,928	(x)	(x)	25,413	(x)	(x)	1,798	(x)	(x)	6
Fuel oil dealers	59	94	57	89	44,889	177,856	(61.9)	760,831	1,892,085	(59.8)	3,467	8,383	(45.8)	264	492	(46.3)	4	5
LPG dealers	205	207	202	201	131,143	169,262	(22.5)	639,722	817,691	(21.8)	19,374	18,492	4.8	1,161	1,233	(5.8)	6	6
Misc.*	13	20	12	18	(x)	3,685	(x)	(x)	184,250	(x)	(x)	538	(x)	(x)	73	(x)	(x)	4
Iowa (total)	250	248	234	240	(x)	200,921	(x)	(x)	810,165	(x)	(x)	16,438	(x)	(x)	1,096	(x)	(x)	4
Fuel oil dealers	47	51	42	48	23,269	45,232	(48.6)	495,085	886,902	(44.1)	1,867	2,797	(33.2)	169	199	(15.0)	4	4
LPG dealers	201	192	190	188	98,446	(x)	(x)	489,781	(x)	(x)	13,986	(x)	(x)	882	(x)	(x)	4	(x)
Misc.*	2	5	2	4	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)
Kansas (total)	131	124	125	119	64,978	77,823	(16.5)	496,015	627,605	(21.0)	7,928	8,370	(5.3)	572	679	(15.8)	4	5
Fuel oil dealers	22	19	20	19	(x)	13,729	(x)	(x)	722,579	(x)	(x)	925	(x)	(x)	79	(x)	(x)	4
LPG dealers	100	96	96	91	51,608	62,494	(17.4)	516,080	650,979	(20.7)	6,709	7,066	(5.1)	458	573	(20.1)	5	6
Misc.*	9	9	9	9	(x)	1,600	(x)	(x)	177,777	(x)	(x)	379	(x)	(x)	27	(x)	(x)	3
Kentucky (total)	172	188	151	176	(x)	111,642	(x)	(x)	593,840	(x)	(x)	12,182	(x)	(x)	933	(x)	(x)	5
Fuel oil dealers	28	36	27	31	20,090	17,290	16.2	717,500	480,278	49.4	1,382	1,062	30.1	126	107	17.8	5	3
LPG dealers	122	122	108	119	77,005	85,932	(10.4)	631,189	704,361	(10.4)	12,096	9,969	21.3	738	727	1.5	6	6
Misc.*	22	30	16	26	(x)	8,420	(x)	(x)	280,667	(x)	(x)	1,151	(x)	(x)	99	(x)	(x)	3
Louisiana (total)	123	125	115	115	(x)	69,674	(x)	(x)	557,392	(x)	(x)	8,824	(x)	(x)	763	(x)	(x)	6
Fuel oil dealers	8	11	8	9	2,591	8,586	(69.8)	332,875	780,545	(57.4)	337	1,190	(71.7)	31	95	(67.4)	4	9
LPG dealers	106	97	101	91	51,074	59,253	(13.8)	480,830	610,856	(21.1)	9,830	7,369	33.4	643	677	2.6	6	6
Misc.*	9	17	7	15	(x)	1,835	(x)	(x)	107,941	(x)	(x)	265	(x)	(x)	41	(x)	(x)	2
Maine (total)	245	268	232	248	321,429	382,169	(15.9)	1,311,955	1,426,004	(8.0)	35,079	24,588	42.7	2,125	1,967	8.0	9	7
Fuel oil dealers	192	214	185	199	290,703	355,787	(18.3)	1,514,078	1,662,556	(8.9)	30,573	21,593	41.6	1,854	1,709	8.5	10	8
LPG dealers	36	36	34	34	27,727	23,848	16.3	770,194	662,444	16.3	3,988	2,633	51.5	212	202	5.0	6	6
Misc.*	17	18	13	15	2,999	2,538	18.3	176,412	141,000	25.1	518	362	43.1	59	46	28.3	3	3
Maryland (total)	192	207	176	212	385,599	437,847	(11.9)	2,008,328	2,115,203	(5.0)	49,134	34,219	43.6	2,558	2,407	6.3	13	12
Fuel oil dealers	124	135	113	130	291,312	373,191	(21.9)	2,349,290	2,764,378	(15.0)	34,115	25,764	32.4	1,757	1,782	(1.4)	14	13
LPG dealers	55	61	53	61	92,376	63,709	45.0	1,679,564	1,044,410	60.1	14,649	8,301	77.1	761	605	25.8	14	10
Misc.	13	11	10	11	1,911	947	101.8	147,000	86,091	70.7	320	154	107.8	40	20	100.0	3	2
Massachusetts (total)	825	888	780	862	(x)	1,397,027	(x)	(x)	1,573,229	(x)	(x)	109,904	(x)	(x)	6,905	(x)	(x)	8
Fuel oil dealers	743	804	704	780	1,055,062	1,338,139	(21.2)	1,420,003	1,664,352	(14.7)	139,666	102,277	36.6	6,678	6,425	3.9	9	8
LPG dealers	65	61	61	60	74,613	52,603	41.8	1,147,892	862,344	33.1	11,551	6,818	69.4	594	405	46.7	9	7
Misc.*	17	23	15	22	(x)	6,285	(x)	(x)	273,261	(x)	(x)	809	(x)	(x)	75	(x)	(x)	3
Michigan (total)	335	332	337	323	(x)	358,217	(x)	(x)	1,078,967	(x)	(x)	29,498	(x)	(x)	2,216	(x)	(x)	7
Fuel oil dealers	136	137	124	133	158,857	178,779	(11.1)	1,168,066	1,304,956	(10.5)	12,236	10,597	15.5	748	1,008	(25.8)	6	7
LPG dealers	203	180	199	177	208,742	177,724	17.9	1,028,286	987,356	4.1	26,851	18,624	44.2	1,503	1,170	28.5	7	7
Misc.*	16	15	14	13	(x)	2,314	(x)	(x)	154,267	(x)	(x)	277	(x)	(x)	38	(x)	(x)	3
Minnesota (total)	236	287	222	236	(x)	274,090	(x)	(x)	955,017	(x)	(x)	23,403	(x)	(x)	1,512	(x)	(x)	5
Fuel oil dealers	91	106	85	96	120,309	138,749	(13.3)	1,322,077	1,308,953	1.0	9,208	7,665	20.1	663	635	4.4	7	6
LPG dealers	139	156	132	135	(x)	133,319	(x)	(x)	859,609	(x)	(x)	15,390	(x)	(x)	847	(x)	(x)	5
Misc.*	6	5	5	5	(x)	2,022	(x)	(x)	404,400	(x)	(x)	348	(x)	(x)	30	(x)	(x)	5
Mississippi (total)	200	184	194	178	(x)	148,074	(x)	(x)	804,750	(x)	(x)	17,549	(x)	(x)	1,406	(x)	(x)	7
Fuel oil dealers	5	9	5	9	(x)	2,616	(x)	(x)	290,667	(x)	(x)	201	(x)	(x)	28	(x)	(x)	3
LPG dealers	190	170	184	164	144,799	144,802	–	762,100	851,776	(10.5)	23,165	17,303	33.9	1,497	1,370	9.3	8	8
Misc.*	5	5	5	5	(x)	656	(x)	(x)	130,200	(x)	(x)	45	(x)	(x)	8	(x)	(x)	2
Missouri (total)	453	459	437	430	241,631	250,858	(3.7)	533,402	546,532	(2.4)	30,296	23,619	31.1	2,289	2,009	13.9	5	4
Fuel oil dealers	39	41	36	40	(x)	30,850	(x)	(x)	752,439	(x)	(x)	(xx)	(x)	(x)	157	(x)	(x)	4
LPG dealers	406	410	393	384	196,021	218,729	(10.8)	482,810	533,485	(9.5)	27,521	21,883	25.8	1,842	1,813	1.6	5	4
Misc.*	8	8	8	6	(x)	1,279	(x)	(x)	159,875	(x)	(x)	245	(x)	(x)	39	(x)	(x)	5

in the variable format with 9,812 service stations in 1987. The year-end count is vastly different—9,127 stations in business on Dec. 31. That's a difference of 685 stations, or 7.0% of the variable total.

Like their gasoline brethren, fuel oil dealers showed almost startling changes in their statistics.

The variable population declined 8.7% to 5,816 establishments while the year-end count dropped 8.4% to 5,511. Here again the difference is substantial between the variable total and the year-end total--305 establishments. That's almost as many as there are in the entire state of Connecticut. On a national basis, retail dealer sales were $9.3-billion. This was an abrupt decline of 21% from the $11.8-billion worth in 1982. On a per

U.S. Census Data: Fuel Oil and LPG Dealers with Payrolls—1987-1982[a] (Cont.)

Compiled by National Petroleum News

	Establishments				Dollar Sales													
	Variable		Year-End		(Add 000)		%	Per Establishment		%	Annual Payroll ($) (Add 000)		%	No. of Employees		%	Average Per Est.	
	1987	1982	1987	1982	1987	1982	Chng.	1987	1982	Chng.	1987	1982	Chng.	1987	1982	Chng.	1987	1982
Montana (total)	62	55	55	52	(x)	22,459	(x)	(x)	408,345	(x)	(x)	2,247	(x)	(x)	191	(x)	(x)	3
Fuel oil dealers	6	8	4	8	(x)	2,482	(x)	(x)	310,250	(x)	(x)	189	(x)	(x)	17	(x)	(x)	2
LPG dealers	53	42	49	39	23,032	19,621	17.4	434,566	467,167	(7.0)	3,697	1,965	88.1	237	158	5.0	4	4
Misc.*	3	5	2	5	(x)	356	(x)	(x)	71,200	(x)	(x)	93	(x)	(x)	16	(x)	3	3
Nebraska (total)	126	113	121	109	(x)	77,994	(x)	(x)	690,212	(x)	(x)	6,897	(x)	(x)	555	(x)	(x)	5
Fuel oil dealers	19	18	17	16	13,289	15,632	(15.0)	699,421	868,444	(19.5)	990	817	21.2	92	86	6.5	5	5
LPG dealers	103	89	100	87	43,504	59,073	(26.4)	422,369	663,742	(36.3)	6,305	5,662	11.4	420	425	(1.2)	4	5
Misc.*	4	6	4	6	(x)	3,289	(x)	(x)	411,125	(x)	(x)	418	(x)	(x)	44	(x)	(x)	6
Nevada (total)	47	41	44	41	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)
Fuel oil dealers	8	7	7	7	10,218	16,038	(36.3)	1,277,250	2,291,143	(44.3)	1,631	1,476	10.5	77	76	1.3	10	11
LPG dealers	32	30	32	30	28,138	27,392	2.7	879,313	913,067	(3.7)	4,258	2,931	45.3	247	244	1.2	8	8
Misc.*	7	4	5	4	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)
New Hampshire (total)	175	201	163	186	(x)	283,641	(x)	(x)	1,411,149	(x)	(x)	24,809	(x)	(x)	1,786	(x)	(x)	9
Fuel oil dealers	136	154	125	141	227,213	248,757	(8.7)	1,670,684	1,615,305	3.4	27,807	20,668	34.5	1,475	1,500	(1.7)	11	10
LPG dealers	24	34	24	32	40,908	33,292	22.9	1,704,500	979,176	74.1	7,130	3,913	82.2	293	261	12.3	12	8
Misc.*	15	13	14	13	(x)	1,592	(x)	(x)	122,462	(x)	(x)	228	(x)	(x)	25	(x)	(x)	2
New Jersey (total)	568	619	534	597	992,959	1,236,038	(19.7)	1,748,167	1,996,830	(12.5)	130,109	99,169	31.2	5,928	5,781	2.5	10	9
Fuel oil dealers	501	550	470	531	909,097	1,161,502	(21.7)	1,814,565	2,111,822	(14.1)	116,194	89,636	29.6	5,273	5,209	1.2	11	9
LPG dealers	54	58	51	55	(x)	72,247	(x)	(x)	1,245,638	(x)	(x)	9,340	(x)	(x)	562	(x)	(x)	10
Misc.*	13	11	13	11	(x)	2,289	(x)	(x)	208,091	(x)	(x)	193	(x)	(x)	10	(x)	(x)	1
New Mexico (total)	99	85	97	83	(x)	43,379	(x)	(x)	541,341	(x)	(x)	4,423	(x)	(x)	382	(x)	(x)	4
Fuel oil dealers	3	1	3	1	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)
LPG dealers	89	80	87	78	53,470	42,562	25.6	600,787	532,025	12.9	7,163	4,179	71.4	493	361	36.6	6	5
Misc.*	7	4	7	4	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)
New York (total)	1,229	1,295	1,175	1,232	2,316,331	3,037,837	(23.8)	1,884,728	2,345,820	(19.7)	294,435	233,347	26.2	13,179	12,754	3.3	11	10
Fuel oil dealers	994	1,054	953	1,001	2,098,451	2,847,063	(26.3)	2,111,118	2,701,198	(21.8)	255,558	207,613	23.1	11,290	11,047	3.3	11	10
LPG dealers	206	201	195	194	205,332	171,727	19.6	996,757	854,363	16.7	36,798	23,576	58.1	1,770	1,496	18.3	9	7
Misc.*	29	40	27	37	12,548	19,047	(34.1)	432,690	476,175	(9.1)	2,079	2,158	(3.7)	119	212	(43.9)	4	5
North Carolina (total)	457	712	436	483	(x)	404,090	(x)	(x)	567,542	(x)	(x)	33,461	(x)	(x)	2,878	(x)	(x)	4
Fuel oil dealers	230	265	220	256	240,005	241,008	(0.4)	1,043,500	909,766	14.7	19,895	15,353	29.6	1,323	1,309	1.1	6	5
LPG dealers	214	219	206	202	192,047	154,869	24.0	897,416	760,164	26.9	28,799	17,135	68.0	1,666	1,437	15.9	8	7
Misc.*	13	28	10	25	(x)	8,133	(x)	(x)	290,464	(x)	(x)	973	(x)	(x)	132	(x)	(x)	5
North Dakota (total)	94	73	87	63	50,155	52,704	(3.9)	533,564	715,123	(25.5)	4,880	3,284	48.6	328	256	28.1	3	7
Fuel oil dealers	34	36	33	32	30,341	36,348	(16.5)	892,382	1,009,667	(11.6)	2,110	1,729	22.0	130	143	(9.0)	2	4
LPG dealers	58	36	52	30	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)
Misc.*	2	1	2	1	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)
Ohio (total)	333	332	319	316	(x)	321,204	(x)	(x)	968,988	(x)	(x)	26,888	(x)	(x)	1,840	(x)	(x)	6
Fuel oil dealers	136	137	128	128	148,627	151,933	(2.2)	1,092,846	1,109,000	(1.5)	10,675	7,854	35.9	755	584	29.3	6	4
LPG dealers	176	163	171	159	169,927	162,616	4.5	954,646	997,644	(4.3)	25,129	18,308	37.3	1,240	1,180	5.1	7	7
Misc.*	21	32	20	29	(x)	6,655	(x)	(x)	207,969	(x)	(x)	726	(x)	(x)	76	(x)	(x)	2
Oklahoma (total)	197	179	187	166	82,188	86,632	(5.1)	417,198	483,978	(13.8)	10,561	8,780	20.3	832	733	13.5	4	4
Fuel oil dealers	28	20	25	17	(x)	6,485	(x)	(x)	324,250	(x)	(x)	560	(x)	(x)	45	(x)	(x)	2
LPG dealers	164	154	158	145	67,012	79,496	(15.7)	408,610	516,208	(20.1)	9,241	8,121	13.8	718	670	7.2	4	4
Misc.*	5	5	4	4	(x)	651	(x)	(x)	130,200	(x)	(x)	99	(x)	(x)	18	(x)	(x)	4
Oregon (total)	115	128	107	120	112,861	168,733	(33.1)	981,400	1,318,227	(25.6)	11,752	13,642	(13.9)	758	952	(20.0)	7	7
Fuel oil dealers	49	67	44	61	75,482	132,054	(42.8)	1,540,449	1,971,030	(21.8)	6,925	9,868	(29.8)	440	681	(35.4)	9	10
LPG dealers	49	45	47	44	34,708	32,493	6.8	708,327	722,067	(1.9)	4,388	3,144	39.6	276	224	23.2	6	5
Misc.*	17	16	16	15	2,671	4,221	(36.7)	157,118	263,813	(40.4)	439	630	30.3	42	47	10.6	2	3
Pennsylvania (total)	834	870	801	844	1,355,420	1,589,201	(14.7)	1,625,204	1,826,668	(11.0)	151,166	114,250	32.3	7,890	7,814	1.0	9	9
Fuel oil dealers	598	613	581	597	1,187,005	1,400,818	(15.3)	1,984,958	2,285,184	(13.1)	128,169	91,958	37.2	6,500	6,238	4.2	11	10
LPG dealers	166	175	157	169	150,023	140,168	7.0	903,753	800,960	12.8	23,004	19,176	20.0	1,211	1,289	1.0	7	7
Misc.*	70	82	63	78	18,392	48,415	(62.0)	262,743	590,427	(55.5)	1,993	3,116	(36.0)	179	287	(37.6)	3	4

establishment basis, the average was $1.1-million versus $1.8-million in 1982.

The LPG industry bucked the industry's down trend by racking up increases virtually across the board. The variable population in 1987 was 6,378, up 4.3% while the year-end total was 6,073, an increase of 3.0%. Total sales were $4.8-billion, almost even-stephen with 1982. The negative difference was only seven-tenths of 1%. LPG payroll totals showed a 37.1% increase in 187 vis-à-vis 1982, compared with the combined fuel oil and LPG average of 30.6%.

Copies of the various state and national reports may be obtained from the Bureau of the Census, Department of Commerce in Washington. The last of the reports was released at the end of September.

U.S. Census Data: Fuel Oil and LPG Dealers with Payrolls—1987-1982[a] (Cont.) Compiled by National Petroleum News

	Establishments				Dollar Sales						Annual Payroll ($)			No. of Employees			Average	
	Variable		Year-End		(Add 000)		%	Per Establishment		%	(Add 000)		%			%	Per Est.	
	1987	1982	1987	1982	1987	1982	Chng.	1987	1982	Chng.	1987	1982	Chng.	1987	1982	Chng.	1987	1982
Rhode Island (total)	151	177	145	169	182,170	258,396	(29.5)	1,206,428	1,459,864	(17.4)	26,809	20,292	32.1	1,445	1,368	5.6	10	8
Fuel oil dealers	137	157	131	150	170,201	243,056	(30.0)	1,242,343	1,548,127	(19.8)	24,913	18,600	33.9	1,352	1,247	8.4	10	8
LPG dealers	12	12	12	12	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)
Misc.*	2	8	2	7	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)
South Carolina (total)	199	215	189	202	(x)	168,645	(x)	(x)	784,395	(x)	(x)	16,099	(x)	(x)	1,342	(x)	(x)	6
Fuel oil dealers	74	83	69	80	57,689	79,529	(27.5)	779,581	950,181	(18.6)	4,873	4,063	19.9	394	392	–	5	5
LPG dealers	114	122	112	113	96,745	87,805	10.4	848,640	719,713	(17.9)	17,109	11,685	46.4	705	918	(1.4)	8	8
Misc.*	11	10	8	9	(x)	1,511	(x)	(x)	151,100	(x)	(x)	352	(x)	(x)	32	(x)	(x)	3
South Dakota (total)	82	86	79	76	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)
Fuel oil dealers	25	27	25	25	20,647	17,788	16.1	825,880	656,815	25.4	1,225	1,066	14.9	111	110	0.0	4	4
LPG dealers	56	56	53	48	22,609	33,041	(31.6)	403,732	590,018	(31.6)	3,297	2,674	23.3	241	224	7.6	4	4
Misc.*	1	3	1	3	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)
Tennessee (total)	136	153	129	143	80,525	111,305	(27.7)	592,118	727,484	(18.6)	12,124	9,887	22.6	741	792	(6.4)	5	5
Fuel oil dealers	11	17	11	15	9,392	16,577	(43.3)	853,818	975,118	(12.4)	654	758	(13.7)	52	79	(34.2)	5	5
LPG dealers	107	109	102	102	67,349	77,215	(12.8)	629,430	708,394	(11.1)	16,787	7,498	43.9	612	582	5.2	6	5
Misc.*	18	27	16	26	3,787	17,513	(78.4)	210,389	648,630	(67.6)	684	1,631	(58.1)	77	131	41.2	4	5
Texas (total)	638	604	598	574	379,756	458,627	(17.2)	595,229	759,316	(21.6)	59,416	45,584	30.3	3,820	3,501	9.1	6	6
Fuel oil dealers	52	61	50	51	58,114	68,409	(15.0)	1,117,577	1,129,574	(1.1)	4,424	3,230	37.0	290	234	23.9	6	4
LPG dealers	537	494	506	479	308,942	374,179	(17.4)	575,311	757,447	(24.0)	53,040	40,425	31.2	3,320	3,064	8.4	6	6
Misc.*	49	49	42	44	12,700	16,039	(20.8)	259,184	327,327	(20.8)	1,952	1,929	1.2	210	203	3.4	4	4
Utah (total)	55	50	43	46	(x)	43,289	(x)	(x)	(x)	(x)	(x)	3,418	(x)	(x)	259	(x)	(x)	5
Fuel oil dealers	5	12	4	10	(x)	20,149	(x)	(x)	(x)	(x)	(x)	930	(x)	(x)	68	(x)	(x)	6
LPG dealers	45	30	34	28	22,173	21,344	3.9	492,733	711,467	(30.7)	3,288	2,218	48.2	272	167	62.9	6	6
Misc.*	5	8	5	8	1,162	1,796	(35.3)	232,400	224,500	3.5	137	270	(60.5)	16	24	33.3	3	3
Vermont (total)	126	148	118	142	172,757	166,885	3.5	1,371,087	1,127,601	21.6	21,312	13,551	57.3	1,139	1,027	10.9	8	7
Fuel oil dealers	90	96	85	92	146,089	140,208	4.2	1,632,211	1,460,500	11.8	16,738	10,375	61.3	871	752	15.8	10	8
LPG dealers	29	41	27	40	25,883	25,557	1.3	892,517	623,341	43.2	4,471	3,044	46.9	255	256	–	9	6
Misc.*	7	11	6	10	785	1,120	(29.9)	112,148	101,818	10.1	103	132	(22.0)	13	19	(3.2)	2	2
Virginia (total)	317	376	299	353	455,091	524,994	(13.3)	1,435,618	1,396,261	2.8	53,776	43,319	24.1	3,168	3,184	0.0	10	8
Fuel oil dealers	187	219	180	206	333,033	417,526	(20.2)	1,780,925	1,906,511	(6.6)	35,025	29,297	19.6	2,118	2,105	0.0	11	10
LPG dealers	97	105	89	98	115,789	86,678	33.6	1,193,701	825,505	44.6	17,570	11,567	51.9	918	834	10.1	9	8
Misc.*	33	52	30	49	6,289	20,790	(69.7)	190,576	399,808	(52.3)	1,181	2,455	(51.9)	132	245	(46.1)	4	5
Washington (total)	166	203	161	195	151,961	246,656	(38.4)	915,428	1,215,054	(24.7)	22,311	22,896	(2.6)	1,157	1,360	(14.9)	10	7
Fuel oil dealers	83	123	82	117	107,677	192,617	(44.1)	1,297,313	1,565,992	(17.2)	16,117	17,437	(7.6)	782	926	(15.6)	9	8
LPG dealers	63	64	59	63	39,774	49,677	(19.9)	631,333	776,203	(18.7)	5,307	4,475	18.6	306	355	(13.8)	5	6
Misc.*	20	16	20	15	4,510	4,362	3.4	225,500	272,625	(17.3)	887	984	(9.9)	69	79	(12.7)	3	5
West Virginia (total)	44	49	43	45	(x)	42,199	(x)	(x)	861,204	(x)	(x)	4,222	(x)	(x)	332	(x)	(x)	7
Fuel oil dealers	14	15	13	14	(x)	16,719	(x)	(x)	1,114,600	(x)	(x)	868	(x)	(x)	70	(x)	(x)	5
LPG dealers	25	28	25	27	16,127	15,693	2.8	645,080	560,464	15.1	2,512	2,082	20.7	150	180	(16.7)	6	6
Misc.*	5	6	5	4	(x)	9,787	(x)	(x)	1,631,167	(x)	(x)	1,272	(x)	(x)	82	(x)	(x)	14
Wisconsin (total)	318	320	295	313	(x)	418,750	(x)	(x)	1,308,594	(x)	(x)	30,119	(x)	(x)	2,069	(x)	(x)	6
Fuel oil dealers	140	160	126	157	149,604	279,046	(46.4)	1,068,600	1,744,038	(38.7)	11,794	14,845	(20.6)	798	1,056	(24.4)	6	7
LPG dealers	165	151	158	147	116,129	138,726	(16.3)	703,812	918,715	(23.4)	19,343	15,141	27.8	1,124	991	13.4	7	7
Misc.*	13	9	11	9	(x)	978	(x)	(x)	108,667	(x)	(x)	133	(x)	(x)	22	(x)	(x)	2
Wyoming (total)	63	46	62	43	26,323	28,144	(6.4)	417,825	611,826	(31.7)	4,293	3,007	42.8	275	245	12.2	4	5
Fuel oil dealers	3	3	3	3	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)
LPG dealers	53	39	52	36	21,251	24,851	(14.5)	419,830	637,205	(34.1)	3,629	2,746	32.2	229	219	4.6	4	6
Misc.*	7	4	7	4	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)
Total U.S.	12,908	13,362	12,226	12,737	14,249,693	16,817,557	(15.3)	1,103,943	1,258,611	(12.3)	1,834,191	1,404,806	30.6	99,618	95,092	4.8	8	7
Total Fuel oil only	5,816	6,368	5,511	6,061	9,294,115	11,754,264	(20.9)	1,598,025	1,845,833	(13.4)	1,059,034	830,123	27.6	54,035	52,754	2.8	9	8
Total LPG only	6,378	6,115	6,073	5,898	4,769,309	4,804,521	(0.7)	747,775	785,694	(4.8)	745,963	543,913	37.1	43,045	39,292	9.6	7	6
Misc. Total	714	839	642	778	186,269	259,172	(28.1)	260,880	308,906	(15.5)	29,914	36,770	(5.1)	2,538	3,046	(16.7)	4	4

x – Withheld to avoid disclosing data for individual companies or for other reasons. * – Includes fuel oil and ice dealers not classified elsewhere.

The top 10 states in the gasoline categories, using the variable totals, are: California, 9,812; Texas, 8,568; New York, 5,982; Florida, 5,933; Ohio, 5,362; Pennsylvania, 5,192; Illinois, 4,655; Michigan, 4,164; New Jersey, 3,791; and North Carolina, 3,547.

For the fuel oil category, the top 10 states are: New York, 994; Massachusetts, 743; Pennsylvania, 598; New Jersey, 501; Conneticut, 379; North Carolina, 230; Maine, 192; Virginia, 187; Wisconsin, 140; and Rhode Island, 137.

For LPG group, the numbers are: Texas, 537; Missouri, 406; California, 346; Florida, 300; Georgia, 294; Illinois, 234; North Carolina, 214; Alabama, 212; New York, 206; and Indiana, 205.

How Franchisee Management Moved Gascard From Bankruptcy To The Comeback Trail

Linda Grillo, employee at Franchisee Peterboro Oil Co.'s Mr. Mike's Mini Mart in Fitchburg, Mass. assists a customer as he uses his GASCARD card at this PATT-II location.

Gascard is back. The high-profile fleet fueling network, whose ambitious attempts to build a nationwide chain of commercial fueling sites fell apart in the spring of 1988, has emerged from Chapter 11 to turn a profit for three consecutive months this summer.

Some observers say that the commercial fleet fueling industry has benefited as jobber confidence in the concept of fleet fueling has risen along with Gascard's rebound.

The numbers tell the story clearly. Just one year after filing for bankruptcy, Gascard boasts a 19% increase in gasoline sold and a 33% increase in transaction volume.

For the months of May, June and July of this year, Gascard's gasoline volume averaged $10.5-million/mo., with roughly 150,000 vehicles/mo. using the system.

As of the first of August, the network, which electronically authorizes gasoline sales for commercial vehicles, had 1,702 fueling locations (1,000 being ARCO card-accepting outlets) and 127 franchisees in 37 states.

Actual profit figures for those months were: $5,000 in June; $24,000 in July and $29,000-30,000 in August.

After bankruptcy, Gascard kept the bulk of its original franchisees and has since taken on 11 more, the company says.

"It has been a rollercoaster, no question" says Tom Jewel, president of Gascard, who was witness to the company's hopeful beginnings, eventual Chapter 11 filing and recent rebirth.

Gascard's dramatic turnaround comes as little surprise to many observers. Following bankruptcy, the company underwent a complete overhaul, scaling back grand marketing strategies, high fees and what some felt were arrogant philosophies.

A year and a half ago, Gascard—the nation's first and largest commercial fueling network— was a different story. Plagued by jobber lawsuits, ill-fated marketing schemes and sky-high operation costs, the company was in a financial tailspin. By the time it filed for bankruptcy, Gascard was $20-million in debt and monthly losses were averaging $300,000, the company says.

Gascard franchisees, mostly jobbers altogether new to the commercial fleet business, were kept in the dark, stymied by sudden decisions at the corporate level to stop recommending customer card fees and by empty promises for marketing support.

Frustration turned to anger; anger turned into lawsuits—about a dozen by one official's recollection.

By Angel Abcede
Contributing Correspondent

Litigation and debt mounted. Company leaders returned to their initial investors for more money. When that funding ran out, Gascard made a public offering in 1987, which raised $5-million.

Still, losses continued. "It's been a feast or famine (situation)," Jewel says.

Faced with mounting expenses and low company morale in the spring of 1988, Gascard called in 15 of its own jobber franchisees to pull the company out of its downward spiral.

A group of five franchisees came in as capital investors and took Gascard through bankruptcy proceedings. In the months that followed, the jobber group trimmed budgets, cut costs and relocated its suburban San Diego headquarters, all of which trimmed Gascard down to a leaner, meaner organization—one without the lofty visions of what they could do, say observers.

According to Gascard officials, the company operated as the kind of giant corporation that it planned to be in the future instead of what it really was: a struggling, rapidly-growing network frustrated by mounting operating costs and stagnant cash flow.

As one Kentucky franchisee put it: "Gascard ran itself as the company it wanted to be. But that's like buying a ticket to Mars, you're spending money on something that doesn't exist yet."

Lean and trim

The five franchisees which invested in the company and guided it through bankruptcy proceedings reviewed major aspects of the network's operation and cut operating costs, telecommunication costs and both jobber franchise and transaction fees.

"It's not so much that a group of guys wearing white hats came in to save Gascard," says one franchisee from Michigan. "The franchisees who took over Gascard were just good businessmen."

The highest cuts in Gascard's turnaround have come in telecommunication costs. The franchisees replaced Gascard's old system, which processed all transactions through its California office, with one that processed most transactions on-site. As a result, telecommunication costs were cut by 60%.

In other major cost-cutting efforts, the company moved its headquarters from its $75,000/mo. "Taj Mahal" offices overlooking the Torrey Pines Golf Course and the Pacific Ocean to its more frugal $10,000/mo. space about 20 miles away.

Gascard also cut its staff by more than half. "We knew it wasn't going to be easy, but we had to let a bunch of people go," says a Gascard official.

GASCARD Board of Directors (from left to right). Stewart Spinks; R. Keith Moore—vice chairman & CEO; Larry Bull (seated); Lindsay Holland—chairman and executive vice president; Thomas Jewell—president & chief operating officer; Steve Draizin (seated); and J.L. Davis.

The company also changed in a more fundamental way. Andre Hansen, who joined Gascard as a technical field engineer in 1984 and is now director of customer services, says attitudes toward spending have shifted dramatically. Where once money went to building a successful image—big offices, big entertainment budgets for its sales staff—today the focus is on cost cutting.

"Employees are more conscious of cost saving today," Hansen says. "The corporate philosophy used to be that we're going to be a major corporation and that's what we're going to look like. Today, it's more like let's see what we can do about doing what we do best."

Sweetening the deal

With the franchisee takeover, Gascard became more attuned not only to internal cost-saving measures, but to the cost of its product to its franchisees.

One-time franchise fees were cut. Before the franchisees took over, a one-mile radius territory (Gascard originally packaged franchises by distance; now it sells franchises by population) would cost $15,500. Today, a territory with a population area of 25,000 would cost just $750, and more significantly, a territory with a population area of between 250,000-500,000 would only cost $5,000. In the past, franchisees could easily pay $100,000 in franchise fees for a single site, Jewel says. Not today.

Equipment fees were slashed. In the old days, Gascard made a significant margin on hardware. One official estimates as much as 50%. Today, Gascard officials sell the equipment with the philosophy that providing the necessary hardware is more of a service than a profit center.

Equipment costs for the fully-automated location used to run as much as $16,500 per site. Today the price is more like $10,500. In-store equipment used to be $2,495 per site. Today the price is $1,975 and with quantity discounts lowering the price to $1,501, Jewel says.

On the issue of "foreign" purchases, Gascard increased the percentage a jobber makes when one of his customers buys gasoline at another franchisee's location.

Briefly, each time a commercial vehicle travels beyond a franchisee's territory and fills up at a different Gascard franchisee location, the jobber who signed up that account and who more than likely carries the credit gets a percentage of that foreign sale.

Instead of assessing the old rate of 2%, Gascard now takes 3% of that sale and gives it to the jobber who signed up the commercial account, although some jobbers under the old contract are still receiving 2%. After an estimated 1% cost of carrying credit, the jobber is left with 2%, officials add.

Finally, transaction fees were cut. Fully-automated sites used to cost the franchisee 2.2% per transaction for new contracts. Now, the fee is 1.5% with a 30% volume discount, bringing the fee down to 1.05%. Attended sites are still 2.2%; however, the volume discount brings that fee down to 1.54%.

Lowering fees was an important part of winning the confidence of franchisees, many of whom even during bankruptcy proceedings continued to process transactions.

"Some of our customers didn't even know Gascard was in bankruptcy at all," says Jan Cochran, of Peterborough Oil Co., a Gascard franchisee in Leominster, Mass.

Many current Gascard franchisees, like Cochran, see the company today as having the same point of view as they do. With the five original investing franchisees and now an additional sixth all being jobbers, there was an assurance that decisions were now being made from a jobber point of view.

"They're people just like me," says Alex Fassas, of Red Hed Oil Co., a franchisee out of Richmond, Ky.

The early days

Gascard has come full circle in that the company began in the hands of enterprising jobbers before taking on its identity as a transaction processor.

The Gascard concept began over 10 years ago in 1978 with a New Mexico jobbership linking its fueling pumps to a central computer.

Bolton Oil Co. out of Artesia, N.M., operated by brothers G.W. and Curt Bolton, were Phillips jobbers who mounted the first attempt at a national commercial fleet fueling network.

Their vision was of a network of stations where company cars, delivery trucks, police cars, taxis and buses could fill up at with the additional service of accounting for fleet fueling costs. The service would eliminate employee pilferage and prevent other unauthorized purchases.

Gascard's uniqueness then and now, according to company officials, is its detailed list of pre-authorization checks before allowing a customer to fuel his vehicle. As opposed to a "negative" card file, which merely checks a customer's account card against a "bad" card list, Gascard's system assesses a customer's current credit availability, fuel type and grade. Gascard officials say its comprehensive pre-authorization methods are what sets its idea of commercial fueling apart from its subsequent competition.

Gascard began operations with great ambition and the best intentions. Gascard Club Inc. was incorporated in 1981 and started as a group of New Mexico distributors with a network of 14 fueling locations.

Gascard's expansion ideas were grandiose: a coast to coast chain of stations to fuel national fleets and maintain fuel management records—an idea with inherent problems (See related story).

In 1983, through the work of cousin W.D. Bolton, Gascard garnered financial banking from affiliates of Citicorp, E.F. Hutton, Rust Capital Corp. and Sears Pension Trust—to the tune of $3-million.

There was a "euphoria" at the company with the first investments and a feeling that the venture funding would "last forever," officials say.

"There was a good feeling during the rollout of the national plan," says Hansen. "There was a feeling that someday the blood and sweat would pay off. It was a very labor intensive time. Everyone gave 200%."

Unfortunately, with the breakup of AT&T, telecommunication costs skyrocketed. Gascard, with its network heavily dependent on phone lines, took a mighty blow.

Through 1984 and 1985, Gascard appealed to and received more money from its venture capitalists.

"There were several peaks and troughs in terms of cash," recalls Hansen. "Whenever we'd get another round of funding to hire people to do the job, the cash would eventually run out and people would get laid off."

Hansen says a cash "peak" lasted about a year, but since the fleet management business was so "specific," it would take six to nine months of training before a new employee would become productive, and by that time, that person had to be let go.

"A lot of people have come and gone," Hansen says. "But we've managed to retain our best, the cream of the crop."

Jobber rumblings

Unknown to the office workers in the California headquarters, Gascard's national expansion during the mid-1980s was taking on an uncontrolled, almost careless nature, according to sources formerly on the Gascard sales staff.

One source says salesmen were touting Gascard's backing from Sears as a selling point, when in fact, Sears was only involved through its affiliate company, Sears Pension Trust. One source says, jobbers were shocked when Sears came out with its "Fleetshare" program after getting the impression that Gascard was Sears' fleet fueling network. Jewel, Gascard's president and CEO, admits there may have been some confusion on the part of jobbers, but that the only tie to Sears the company held was its backing from Sears Pension Trust.

While some jobber grievances came from Gascard's sales force, others originated from upper management. Marketing strategies conceived at the corporate level were implemented, then pulled after few months for being "unsuccessful," causing confusion and anger among jobbers, sources say.

National Growth: Picking The Right Formula For Expansion

How to grow into a national fleet fueling network has been the question for many in the budding business of serving commercial fleets.

Those with the once financially-troubled fleet fueling network Gascard believe one of Gascard's major problems was growing too fast too soon. Thomas Jewel, president and CEO of Gascard, says the company just didn't have the marketing support to service all the franchisees that were signing on.

After filing for Chapter 11 protection last year, Gascard has emerged to turn a profit this summer.

Yet, more fundamentally than the problems of unchecked growth is the issue of a commercial fleet fueling system going "national" at all.

On the surface, the idea looks good. A commercial fleet truck can fill up coast to coast at Gascard locations and still be included in company management reports. However, in reality, commercial accounts are more regional. They frequent the same sites in a particular region, sources say.

Gascard recognizes this, and while it is still looking for strategic interstate locations to sign on, its focus is on developing regions.

Two other commercial fleet service companies are taking their own approaches to growth.

Pacific Pride out of Salem, Ore., is taking a regional strategy toward growth, expanding region by region from its West Coast base. The company today boasts 400,000 active cards, a 6-million gal./mo. volume and a nine (soon to be 11) state network.

Pacific Pride believes its customer base to be the petroleum marketer, and has grown though franchising.

Wright Express, out of Portland, Maine, operates more like a credit card. It signs on companies that already have point-of-sale (POS) systems in place. Wright Express offers the marketer the ability to use private label cards or to accept the Wright Express "WEX" card.

The ease of integrating the WEX card into established POS systems has been a major selling point for the fast-growing financial processor.

In early fall, the company had added Circle K, Jiffy Lube and Firestone to its league of members. Others who have signed on include Getty, Harken's E-Z Serve, Mapco,Total, Crown, Fina and Miller Oil Co.

An official with Wright Express says the company goes after "medium independents," in an effort to pick up the most sites in the shortest amount of time. But adds that jobbers and the major oil companies are its future markets.

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Many municipal fleets are part of Gascard's network. Just one year after filing for bankruptcy, Gascard boasts a 19% increase in gasoline sold and a 33% increase in transaction volume.

A major issue in many jobber complaints was a plan for so-called "SWAT" teams. These teams of seven or eight salespeople would go into metropolitan areas and "put cards out like crazy." But the plan failed. The salespeople underwent a reported two-week training period and then were sent into areas they were just plain unfamiliar with, sources say. "These people didn't know the area. They had no idea of what pricing was like or what commercial accounts in the area were looking for," says one former Gascard salesman.

Many areas, which were promised marketing support, were not given it, according to sources.

By the end of 1985, jobber litigation had begun to mount, and Gascard found itself spending "considerable sums" of money to defend itself against suits and to fend off others.

Transition to processor

The venture capital firms, who over time had gained a majority of Gascard shares, made their move in 1985 by assuming control of the company and appointing Thomas M. Cannon president.

Cannon had been with First Data Resources, one of the largest bank card processors in the world, and also had experience in sales and marketing for IBM.

"The Boltons were seen pretty much as entrepreneurs," Hansen says. "Cannon had a large corporate perspective."

With his professional air, Cannon brought his experience in the computer and transaction processing fields to a troubled Gascard. Things would change with his arrival. Cannon had the experience of a transaction processor, and Gascard was molded into that view, Jewel says.

In 1986, Cannon restructured Gascard. Field offices closed. Employees were laid off. Operations were brought into the main office. Most importantly, focus turned from being a franchisor with marketing support to simply a transaction processor, the company says.

One of the most jolting results of the change was the dropping of what has been called the "24-and-5 fee" that Gascard recommended jobbers charge their commercial accounts.

Gascard recommended, though never required, jobbers charge a $24 per vehicle fee up front and a $5 per vehicle monthly fee for the service of providing monthly fuel management reports.

Some jobbers weren't successful at getting that amount from customers, but some were. In fact, some jobbers could justify their system merely by the 24-5 fee alone.

According to Gascard officials, Cannon felt that to increase revenue, transaction volume needed to increase. The company stopped recommending the fees and asked franchisees to give the cards away, sources explain.

Jobbers, many of whom survived on those fees, were outraged. These jobbers felt that their fee structure would be undermined by competing Gascard franchisees who could offer the cards to customers for free.

The litigation continued into 1987. A turning point during the legal battles of the mid-1980s for Gascard was a suit filed by Away Marketing out of Waco, Texas. Generally following the lines of other lawsuits, the Waco case became important when Away Marketing won in a local court and gained a settlement with Gascard. Lawyers for jobbers in other states quickly scurried down to Waco and began patterning their lawsuits to the successful Texas case. Suddenly, souces say, the jobber suits became a real threat.

Dark days

With the burden of litigation coupled with increasing operating costs, the company found itself in need of more capital to become profitable. So in March 1987, the company went public and raised $5-million in its initial offering.

But going public was no panacea. The threat of further litigation kept away investors, and high telecommunication costs and an expensive lease on its headquarters offices sent the company lower and lower.

Litigation lingered throughout the year and salesmen for months were unable to recruit new franchisees. Some salesmen say they sat around for weeks doing nothing for their base salaries.

In March 1988, the Gascard board of directors brought in 15 franchisees to a meeting in Dallas/Ft. Worth, Texas, in the hopes they would buy the financially-ailing company.

Five jobbers agreed to invest: Barney Holland Oil Co., Ft. Worth, Texas; Herkimer Petroleum Products, Inc., Utica, N.Y.; RAD Oil Co., Inc. New Rochelle, N.Y.; Spinx Oil Co., Greenville, S.C. and West Texas Gas, Inc., Midland, Texas.

A sixth investor, Sunwestern Joint Ventures, entered the picture later on.

The franchisee investors formed GCF, Inc., a separate company, to review the situation and consider investment in Gascard.

On April 29, 1988, Gascard filed under Chapter 11 of the U.S. Bankruptcy Code.

Though upper management was aware of its financial problems and many jobbers and field representatives knew of certain lawsuits, most Gascard office employees were in the dark. Hansen says bankruptcy came as a shock to most workers in the office. "Everything seemed full steam ahead," Hansen says. "We knew there was trouble four or five weeks before it happened; then it came on suddenly. Everyone thought Tom Cannon would pull it out of the hat."

Observers describe a "we versus they" distance between headquarters and the jobber franchisees, and as a result, a bit of resistance when the franchisee investor group came in. The friction—which was short-lived, two or three weeks at the most, according to sources—is an example of how separately Gascard had operated from its jobber franchisee base.

One official described how Gascard employees harbored stereotypical images of oil jobbers being blue-collar workers and the fear that professionalism might be lost. All fears dissipated with the no-nonsense, cost-cutting approach the franchisee investors showed from square one, the official says.

Keith Moore of West Texas Gas became the company's president and CEO, assuming daily operations of the company. Lindsay Holland of Barney Holland Oil Co. took the chairman of the board and executive vice president positions, taking on the bankruptcy proceedings and press relations responsibilities.

The franchisee investors held meetings with other franchisees around the country, letting everyone in on plans and withholding only what could not be revealed under Security and Exchange Commission codes.

"(The new franchisee investors) could have planned in some igloo in the dark, but they understood that the key to success is communication," says a Kentucky franchisee.

From the ashes

On Sept. 1, 1988, Gascard stepped out of bankruptcy and into a new era. Free from any legal or financial entanglements, Gascard began working toward profitability.

Last May, June and July, Gascard produced the following sales figures:

- $10.5-million/mo. in sales.
- 9.9-million gal./mo.
- 460,000-transactions/mo.
- 43,000 fleets using the system.
- 160,000 vehicles using the system.

After regaining its ability to sell more franchises in January of this year, Gascard, as of August 1, has signed on 11 new franchisees.

In a sense, the less-flashy, simpler Gascard of today has more appeal to jobbers than its predecessor.

Going from an 75,000-sq.ft. space at the top floor of prime San Diego real estate to a modest, 10,000-sq.ft. office a few miles away in Carlsbad emphasizes their cost-cutting image.

Cost-cutting doesn't mean loss of quality either. Money-saving improvements in telecommunication and hardware have also shortened the time it takes for a customer waiting at the pumps to get approval. An intolerable 20-30 second wait has been cut to 2-3 seconds.

With updated Diebold and Datatrol island card readers and point-of-sale devices, Gascard now authorizes the bulk of transactions at the site. With its new distributed authorization system (DAS), Gascard terminals can now store information until such a time when a batch of information can be sent and/or when telephone rates are lower.

Gascard's DAS exchanges information between the site and the California computer in a free-flowing manner, sending important pieces of information quicker and waiting on others. All information is processed after a six-hour time span, officials say. While there is some exposure to fraud, it's minimal and Gascard has had no problems thus far, officials say.

Gascard received patent approval for the DAS in August.

Franchisees with the old equipment did pay for the new system, but considerably less and for a much better payoff, say both franchisees and Gascard officials.

For the updated POS device, for example, Gascard back in February gave franchisees the option of buying the device at $1,000 or staying with the old transaction fees (which are in most cases 30% higher than the new fees). Then, last August, when the company could afford to, it gave the devices to franchisees free of charge.

The company's new sense of practicality flows onto the marketing support it provides franchisees. No longer does it espouse any one method of marketing the service to commercial clients.

Gascard offers a two-week training session for franchisees and has begun a traveling version for interested franchisees. Gascard tells what has worked for some franchisees, but doesn't recommend any method over the other.

Franchisee reaction

Many Gascard franchisees who were with the company before the bankruptcy are satisfied with the changes that have been made. Many feel Gascard has been headed in a good direction ever since bankruptcy and aren't surprised at all that the company has turned around so quickly.

There have been jobbers who have switched networks. Bob Nicholes, of Bob Nicholes Oil Co. in Caldwell, Idaho, for instance, left Gascard before its bankruptcy because of high fees. He found his foreign

Franchisee R.A.D. Oil Co.'s GASCATT installation at John F. Kennedy Airport in New York City.

Fleet Card Processors/Marketers

(Where companies are diversified, numbers represent their fleet card operations only)

Aspects:	Commercial Fuel Network	Gascard	International Automated Energy Systems (Florida)	Pacific Pride	Sears "Fleet-Share"	Wright Express	Crown/ Wright Express	Fina/ Wright Express	Getty/ Wright Express	Diamond Shamrock	Mobil	Phillips	Shell
Total annual sales (add 000)	$60,000	$120,000	$12,000	$36,000	$13.5,000	$24,000	$8.4,000	$ 6,000	$9.6,000				
Total monthly sales (add 000)	$ 5,000	$ 10,000	$ 1,000	3,000	$ 1.2,000	$ 2,000	0.7,000	$0.5,000	$0.8,000				
Total electronic sites:	200	1,700	50	170	1,200	3,200	800	800	1,600	400	5,000	300	4,300
Average monthly sales per site:													
Automated island card reader sites	25,000	30,000	20,000		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
In-store P.O.S. device sites	N/A	4,000	N/A	N/A	700	625	875	625	500				
Number of vehicles		102,000			17,000	12,000	4,200	3,000	4,800				
State coverage	4	38	1	6	22	36	12	20	11	7	37		40
Regional concentration	West coast	38 states	Florida	Northwest	35 states		Northeast	Southeast & West	Northeast	West			
Number of sales and customer service offices	1	127	1		21	1	1	1	1	1	1	1	1
Years in fleet-card business	2	8	8		3	7	2	2	2	3	Start-up	3	2

Source: Gascard, Inc.

transaction business increased upon joining Salem, Ore.-based Pacific Pride Services Inc. He also enjoys the simplicity of Pacific Pride's punch-card mechanism.

For others, however, a combination of prior investment, the fundamental changes within Gascard, lower fees and equipment charges and simple faith have kept them with the company.

Dave Katulic, director of automatic fueling for Atlas Oil Co. in Detroit, says the revised fee structure sold the company back on Gascard. Atlas had been a litigate in a prior lawsuit against Gascard, which charged the company with failing to provide promised marketing support.

Katulic says fees assessed prior to bankruptcy hit $200-$300/mo. Today, the fees are more like $50. "Believe me, we looked very closely (at the new Gascard) before joining again."

Another jobbership, Peterborough Oil Co. in Leominster, Mass., felt satisfied enough with Gascard's changes and rejoined the network.

Jan Cochran of Peterborough says one of the pluses of Gascard is that her company maintains control over the credit. If a customer has a problem, they can consult her directly and she can handle it without having to go through a third party. Of course, jobbers who aren't used to carrying credit may not find that aspect so appealing; and there are other fleet fueling companies, such as Wright Express out of Portland, Maine, that will carry credit for the jobber.

A big feather in Gascard's cap is an extended three-year agreement with West Coast major Arco. Through Arco's PayPoint network, Gascard customers can fill up at the major's 1,000 retail outlets.

So it appears, for a multitude of reasons, Gascard is still drawing in franchisees, old and new. Lee-More Oil Co. of Sanford, N.C., is a chain of 50 gasoline/C-store locations and is affiliated with the Pantry chain which has 400 similar outlets.

Truby Proctor Jr., chairman of Lee-More and an official with Pantry, says the large geographical abilities Gascard offers is what made the company drop its previous fleet network in favor of Gascard.

"You have to provide the locations for your customer base," Proctor says. "If you cannot give the geographical ability, then you'll be unsuccessful."

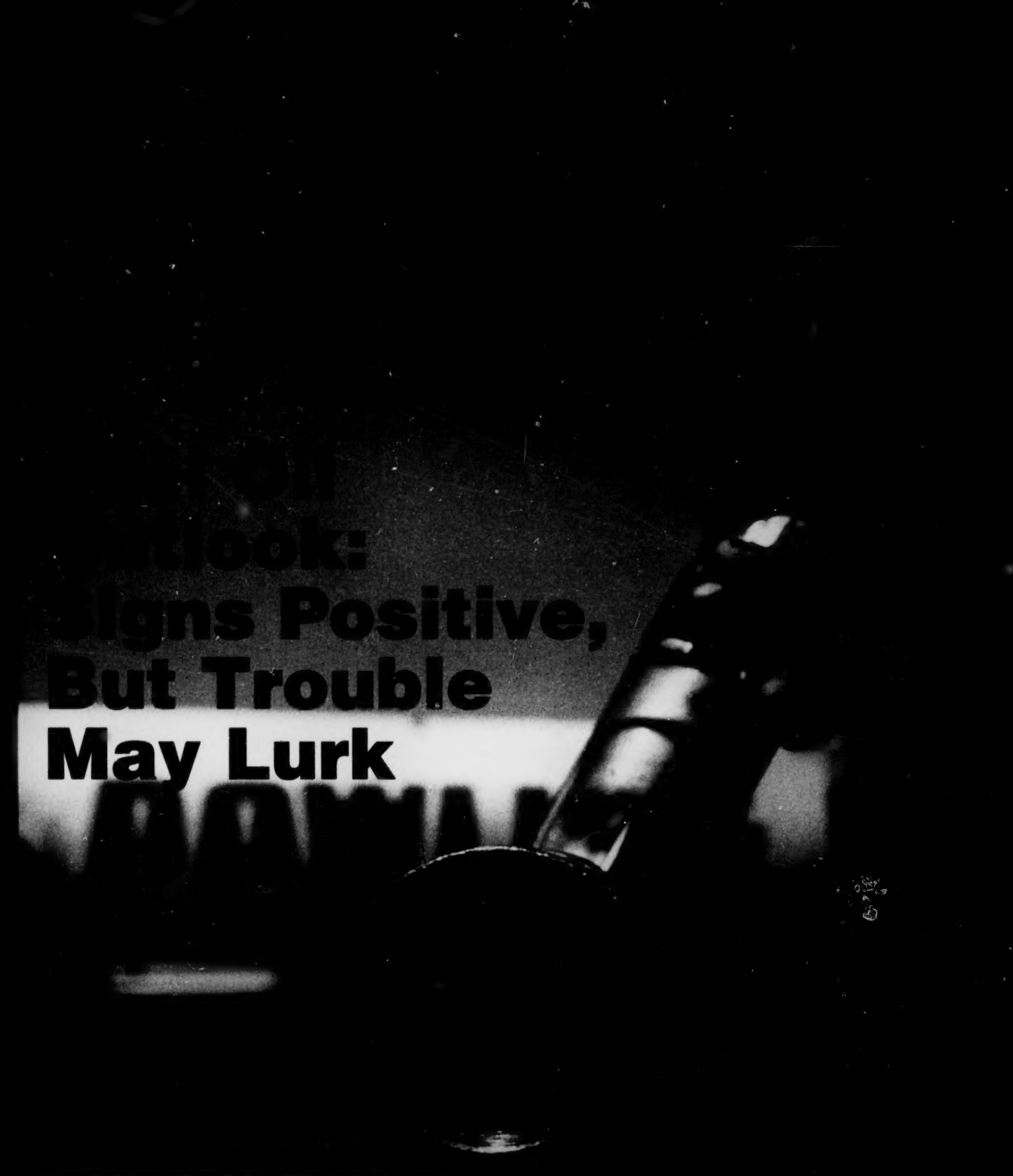
Many believe Gascard's return from bankruptcy is a positive sign for a budding industry.

"The fleet fueling industry took a blow when Gascard filed for bankruptcy," explains Paul Farrell, vice president of franchise sales for Pacific Pride. He says many "lost faith" in the fleet fueling idea. "We're glad (Gascard) has pulled out of bankruptcy. It gives customers a choice."

Farrell's comments illustrate a "friendly" competition among the players in the field. While they won't hesitate to declare the advantages of their system over their competitor's, they realize the concept of fleet fueling is still in its infancy, and needs a delicate hand to mature.

Still, as many Gascard franchisees point out, growth in commercial fleet fueling is inevitable. Environmental Protection Agency regulations are forcing hundreds of privately-run tanks out of service.

"With the (EPA's new regulations), we get two or three calls a week from companies who are going to be pulling out their tanks," says Katulic of Atlas Oil. "Fleet fueling is guaranteed to be the oil jobber's market of the future." **NPN**



Oil Outlook: Signs Positive, But Trouble May Lurk

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Editor's Viewpoint

Sometimes I think Exxon's mascot should be a lemming—you know, the little rodents that occasionally march to the sea and drown themselves. The company does seem to display an urge to do itself harm now and then. It's latest coup is filing a suit against Alaska, charging that the state prohibited the use of chemicals that Exxon says would have helped contain and clean up the infamous Exxon Valdez oil spill. Alaska at the time apparently believed Exxon had done enough damage already without adding chemicals to the mix.

Even if Exxon is correct and the suit is justified, how smart is it to sue the state after everything that's happened and all the negative press the company received from the spill? If it wins the suit, it still loses. The point here is not who's right or wrong in a strict legal sense. It's a matter of what's right or wrong in a broader context, in terms of perception, company image, public opinion. And in this context, Exxon has flubbed things from the very start. True, the company was treated unfairly by the press, which fixated on the horror of the spill and the company's initial miscues in handling it. But Exxon's management and public relations geniuses must shoulder some of the blame.

Everything I've heard says Exxon did, in fact, do as good a job handling the spill. There were mishaps at first, but the company quickly got past these, put its act together and accomplished the mission well. This, however, was overshadowed by management's attitude and inane remarks, such as the comment that in essence said the costs of the cleanup were no big thing because they'd just be passed on to consumers anyway.

Other PR gems and disputes between Exxon and government agencies occurred right up to its final pull out from the spill area—all at a time when people were cutting up Exxon credit cards and boycotting Exxon stations. And this public reaction was the real downside, not so much for Exxon, but for people who are associated with it. Exxon is too big to go belly-up from the consequences of the spill, the bad press and the public indignation that it provoked. But the negative response to its actions and its attitude was, and will be, felt from the bottom up; it's felt in the trenches—out in the street at the retail level among Exxon jobbers and dealers who paid a price through lost business. As a giant among corporate giants, Exxon can absorb losses and ride out criticism. Other businesses which are linked to it, however, do not have the same enormous resources to cushion them from the knee-jerk reactions of consumers and government. Exxon should keep that in mind.

—Frank M. Victoria

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Current signals are positive but trouble could be lurking in the weeds as the fuel oil industry moves into 1990. Stiffer competition and a potentially huge infusion of natural gas from Canada could alter the rosy outlook.

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ELEVEN
WOW!
2 BIG B

Business format franchising is becoming an important tool for majors and jobbers alike for financing expansion plans.

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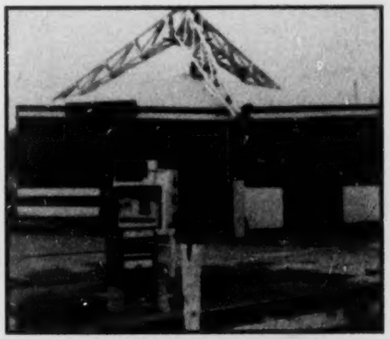

The phaseout of leaded gasoline threatens to leave many leaded users—marine engines, older cars and farm equipment—high and dry. Some enterprising jobbers, however, are filling this market void using lead additives.

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Tight Margins Put Crimp In Third-Quarter Earnings

Net profits were a mixed bag for oil companies in their third-quarter and nine-month earnings reports. There were some plusses strewn here and there and Amerada Hess and Texaco dominated this category.

Overall, however, the negatives overwhelmed the positives. Rising crude oil prices helped some companies boost their profit levels while declining product prices softened the net gain prospects of almost all.

Exxon, still reeling from the Alaskan tragedy, continued to feel the financial impact although not as heavily as in the first half. At the three-quarter mark, its net was off at least a billion dollars [*NPN*—Sept. '89, p8].

Hess, which had a strong first-half, continued onward and upward with a 228% increase in the third quarter and a 600% increase for the nine months of '89.

Texaco was another winner with a modest 11% in the third quarter and 111% for the nine months. The profits reflected Texaco's restructuring and the sale of assets to rehabilitate itself.

Conoco did well too, up 38% for the quarter and 34% for the nine months. Marathon squeaked by with a 1% increase in the third quarter but showed up strong with an 81.7% increase over the nine months.

Shell, the nation's No. 1 gasoline marketer, slipped a bit in the third quarter but nevertheless managed to wind up the first nine months with a 11% showing. Arco also had a third-quarter relapse but still had a nine-month gain of 30%. Kerr-McGee was down 34% at the quarter but up 53% for the nine months.

Downstream, the earnings were nothing to get excited about, falling back, more or less, to the patterns that existed several years ago. Both Mobil and Chevron had substantial increases but Mobil's was attributable more to a real estate deal in Hong Kong than anything else. Chevron's increase reflected stock appreciation rights exercised by the company.

UPSTREAM: Third-Quarter and Nine-Month Earnings

(Millions of dollars)

	3 Qtr. 1989	3 Qtr. 1988	% Chng.	9 Mos. 1989	9 Mos. 1988	% Chng.
Exxon	$1,110.0	$1,225.0	(9.4)	$2,540.0	$3,880.0	(34.5)
Mobil	532.0	557.0	(4.5)	1,362.0	1,625.0	(16.2)
Chevron	417.0	420.0	(0.7)	1,134.0	1,593.0	(28.8)
Amoco	336.0	552.0	(39.1)	1,291.0	1,688.0	(23.5)
Shell	340.0	364.0	(6.6)	1,141.0	1,027.0	11.1
Texaco	305.0	274.0	11.3	2,126.0	1,008.0	110.9
BP America	n/a	n/a	n/a	n/a	n/a	n/a
Arco	379.0	391.0	(3.1)	1,550.0	1,192.0	30.0
Phillips	87.0	215.0	(59.5)	474.0	515.0	(8.0)
Conoco *	98.0	78.0	38.0	430.0	320.0	34.4
Unocal	79.0	97.0	(18.6)	286.0	339.0	(15.6)
Marathon	198.0	180.0	1.0	696.0	383.0	81.7
Sun	85.0	72.0	18.1	271.0	(69.0)	–
Coastal	3.0	9.2	(67.4)	98.7	86.9	14.4
Amerada Hess	51.8	15.8	227.8	405.5	57.9	600.3
Pennzoil	35.4	39.3	(9.9)	206.6	439.1	(52.9)
Ashland **	(39.4)	66.2	–	86.2	223.9	(61.5)
Kerr-McGee	20.1	30.5	(34.1)	118.8	76.6	55.1
American Petrofina	15.1	35.2	(57.1)	105.7	100.0	5.7
Murphy	2.5	10.1	(75.2)	25.7	13.1	96.2
Citgo	28.6	29.9	(4.3)	104.4	105.6	(1.1)

DOWNSTREAM: More Losses Than Gains

Exxon (Total)	$357	$537	(35.5)	$736	$1,249	(41.1)
Domestic	128	220	(41.8)	257	414	(37.9)
Foreign	229	317	(27.8)	469	837	(44.0)
Mobil (Total)	383	219	74.9	708	701	1.0
Domestic	88	143	(38.5)	375	333	12.6
Foreign	295	76	288.2	333	368	(9.5)
Chevron (Total)	230	210	9.5	678	522	29.9
Domestic	141	113	24.8	327	301	8.6
Foreign	89	97	(8.2)	351	221	58.8
Texaco (Total)	180	373	(51.7)	514	706	(27.2)
Domestic	76	203	(62.6)	190	406	(53.2)
Foreign	104	170	(38.8)	324	300	8.0
Amoco (Worldwide)	134	319	(58.0)	461	631	(26.9)
Shell	106	162	(34.6)	351	395	(11.1)
BP America	n/a	n/a	n/a	n/a	n/a	n/a
Arco	119	121	(1.7)	227	280	(18.9)
Phillips	48	85	(43.5)	161	200	(19.5)
Marathon	112	196	(42.9)	347	332	4.5
Sun	73	86	(15.1)	205	204	0.5
Conoco *	78	91	(13.3)	241	227	6.2

* After tax operating income; ** Fourth quarter and full year; fiscal ends 9/30.

• TRENDS

Gasoline Taxes: Torrid And Controversial In '90s

A restatement of the White House hard-line on taxes notwithstanding, it can be pretty well taken for granted that gasoline taxes can't help but be one of the liveliest topics in Washington D.C. next summer. And if not then, it will be demanding greater gobs of time and attention in early '91, stretching tempers and temperaments to a political breaking point.

Sen. Bob Dole (R-Kan.), the Senate Republican leader, was one of the latest pols to revive the gasoline tax hike subject. Dole not only packs a lot of personal wallop in Congress but he's a member of the Finance Committee which has much to do with writing and revising tax proposals up or down. He has put himself on record, as have several other influential Republicans, that they'd support a bipartisan thrust to get the job done.

New taxes and changes in the existing structure must originate in the House Ways and Means Committee but unless a House-passed bill is supported and endorsed in the Senate's Finance Committee, there's not much hope that it'll survive the rough road it will have to travel.

Dole, appearing on network TV's "Meet the Press" program in late October was asked his position on boosting the federal tax on gasoline, now 9.1¢/gal. "I would support a gasoline tax increase for rebuilding the infrastructure but not for debt reduction," he said. In other words, bridges and highways, but not debt abatement or, inferentially, any other project.

The Bush administration is dedicated to "no new taxes" come hell or high water. New and improved highways and bridges are very important but the more basic issue is the federal deficit—now more than $152-billion—is something that can't be kept on a back burner forever. It'll swamp anything and everything once the possibility of an acceptable tax increase is considered to be out in the open.

White House sources say Dole wasn't talking for the administration when he appeared to be endorsing a bipartisan gasoline tax strategy. And media spokesman Marlin Fitzwater emphasized the negative hours later when he said, "We do not feel that an increase in the federal gasoline tax is necessary at this time." The "at this time" made some people wonder whether he hadn't compromised his remarks so that he wouldn't be caught barefaced and baldheaded by a course reversal next summer or in 1991.

Sharp-eyed readers of one of the nation's leading newspapers also noticed a deletion in the wire service dispatch announcing Fitzwater's rejection of Dole. The lead sentence used the words, "leaving the idea politically lifeless." Was the deletion merely routine copy editing or was it tacit concurrence that "politically lifeless" was a gratuitous term neither editorially realistic or acceptable?

Sen. Peter Wilson (R-Calif.) is another GOPer who has suggested support for a bipartisan bill. So have Sen. Pat Moynihan (D-N.Y.) and Rep. Dan Rostenkowski (D-Ill.) chairman of the House Ways and Means Committee. Say the word, his associates say, and Dan and other Democrats will move right out. There's no question that they are sensitive to tax hikes but they aren't going to move so long as the president continues dodging the inevitable.

Over the past year, all sorts of numbers have been floated on possible increases—from 5¢/gal. to $1 and more. Economists have estimated that 1¢ is worth about $1-billion a year in federal revenues. On that basis, a nickel or a dollar could bring in between $5-billion to $100-billion to the federal coffers.

Outside a few oil-rich or minimum consumption countries, foreign motorists have always paid higher taxes and higher retails for their gasolines than their U.S. counterparts—as much as $5/gal. in Japan, for example. A billion dollars for a penny is a ratio that's going to have the politicians salivating next year when the pressure pains for additional revenues escalate from excruciating to incredible. Don't forget highways need mega-billions just to keep their own programs alive and working well. Once the scramble starts, it will be interesting to see who and what gets top priority—highways and byways or deficits and castrated federal programs.

—by J. Richard Shaner

• MARKETPLACE AT A GLANCE

AVERAGE GASOLINE PRICES IN THE U.S. (per gal.)

	Gasoline (All types)	Leaded Regular	Unleaded Regular	Unleaded Premium
U.S. City Avg.	$1.073	$1.007	$1.029	$1.213
Regions:				
Northeast	1.101	1.050	1.030	1.241
North Central	1.082	1.041	1.047	1.234
South	1.060	1.012	1.009	1.176
West	1.056	.986	1.028	1.230

Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

STOCKS (Add 000 bbl.)

	10/27/89	10/28/88
Gasoline (Total)	223,164	214,570
Gasoline (Unleaded)*	163,615	129,316
Jet Kerosine	43,392	41,469
Distillates	118,658	128,786
Residual	48,790	40,105

** Included in gasoline total.*

Source: American Petroleum Institute.

Fuel Oil Outlook: Signs Positive, But Trouble Still Lurks

By George Schultz
Contributing Correspondent

On the surface it would appear that the outlook for the oil heating industry is as bright and bountiful as last year. Supply seems to be plentiful. No hard evidence has been forthcoming that would support an argument that trouble is brewing. But...

Subtle hints exist that indeed the industry will once again be faced with stiff competition and an unfavorable political climate. The main threats come both from within, as the industry continues to wrestle with its own inability to unify, and from external forces which will continue to put extreme pressure on consumers to switch fuels. Utilities, startled dead in their tracks by oil heat's aggressive and successful advertising and marketing campaigns over the past five years, have seemingly regained their composure and are poised to launch new volleys in retaliation.

Also compounding oil heat's woes is the apparent legislative approval of various Canadian pipeline projects that are expected to eventually bring in huge quantities of natural gas to the New England and Mid-Atlantic regions. The Northeast, where oil heat still maintains a respectable market share, could ultimately become the last battleground in the fuel wars. Should the gas utilities win here, the remnants of oil heat in other parts of the country—particularly the Pacific Northwest—will fall down like a house of cards as the industry's support services disband.

Yet the fuel oil industry has shown remarkable resiliency over the past 25 years and has refused to cave in to the well organized, well heeled utilities. So-called experts have been predicting that the heating oil industry would go belly-up for two decades, but it hasn't. One prominent oil heat marketer from New England recently commented at this past summer's Oil Heat Promotion Conference in Williamsburg, Va.: "As Mark Twain remarked after reading his own obituary, 'the reports of [oil heat's] death were greatly exaggerated.'"

Because of the very mild weather throughout the Northeast last winter, supply-related price fluctuations have not been problematic for oil heat marketers. However, spot and futures market prices have risen dramatically through the spring and summer, which is unusual. This increase is part of an overall rise in petroleum prices worldwide as a result of OPEC's latest attempts to control production. World crude oil prices bottomed out in November 1988 at about $10/bbl. and have been climbing steadily ever since.

Price and supply

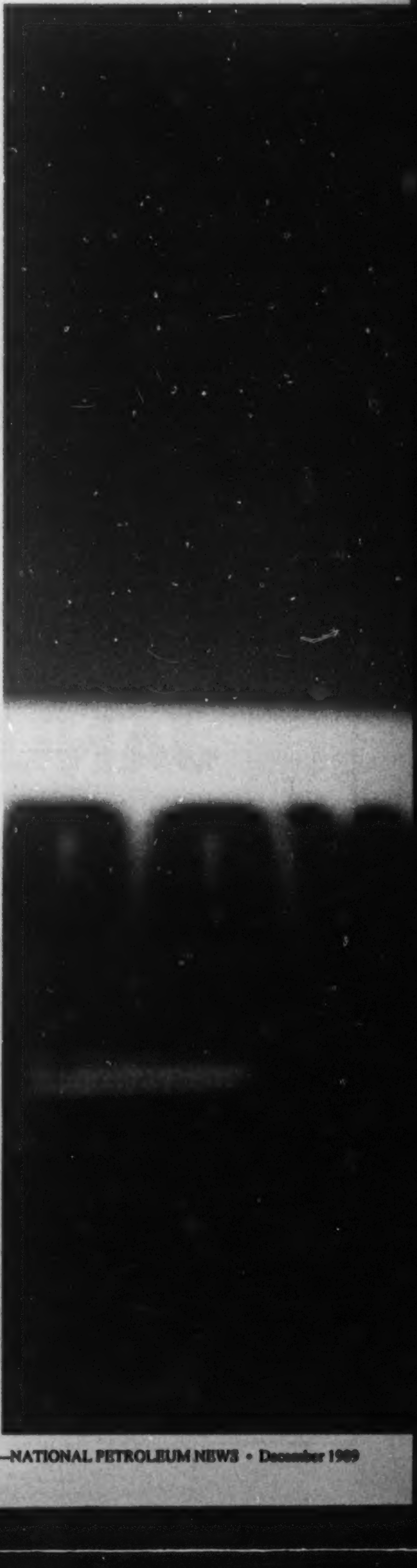
In mid-October 1989, Arab Light crude oil was trading on the spot market a bit under $17/bbl. NYMEX Crude Oil Futures were about $20/bbl. for December 1989 contracts. Contrast this with the same period in 1988, when Arab Light was selling for $10/bbl. on the spot market and December 1989 Merc crude oil futures were about $13/bbl.

Fuel oil prices have generally paralleled this trend. NYMEX futures prices for No. 2 heating oil (December 1989 contracts) are around $.59/gal. in mid-October. This is close to the all-time high of $.60/gal. for December '89 futures. The same contracts traded at about $.37/gal. last year at this time.

The heating oil industry has been slow to react to this 60-70% increase in wholesale fuel oil prices. Although many have become conditioned to erratic and unpredictable fluctuations, price is a sensitive issue so there's a reluctance to fully pass along the increases. Past price spikes have led to customer defections to other fuels and political rhetoric about price gouging on the part of oil heat dealers.

This situation is not as critical as in the early 1980s when many marketers went to the edge of bankruptcy as a result of rising prices and their inability to react. Those who survived that era have developed better margins (said to be as much as $.50/gal. in some areas) that enable them to absorb at least some of the most recent price increase. They're also careful not to tie up capital in huge inventories and know how to tighten their belts wherever possible to stay lean.

Table 1 shows the five-year trend in wholesale and retail prices and demonstrates



how fluctuations affect margins. Note that the price increases in 1987 and 1989 affected margins more than the price reductions in 1985 and 1988.

Scrap the crystal ball

In last year's Fuel Oil Outlook we went into great detail as to why prices were expected to drop. We cited reports about worldwide overproduction and high inventories and repeated the experts' prognostications about what to expect in the coming months. They blew it!

The so-called experts who in 1988 were forecasting another oil price collapse are busy wiping the egg of their faces. Instead of plummeting to the $5/bbl. level they predicted, prices have gone up, principally due to OPEC's ability to more or less maintain its output quotas. This is a feat that virtually everyone felt was impossible based on OPEC's past failures and the economic difficulties faced by many of its members.

Experts are now hedging their predictions as much as they can. They say that prices may become somewhat volatile, but they don't expect any 1970s-type crisis. The rise of non-OPEC countries as oil suppliers, coupled with the growth of the spot and futures markets and our ability to switch fuels are cited as reasons why things won't get panicky.

Shrinking numbers

The U.S. Census Bureau says that at the end of 1987 there were 5,511 fuel oil dealers with payrolls operating in the United States. This represents a 9.1% drop from 1982 when the Bureau conducted its last survey of retail trade. This count differs dramatically from industry figures, mainly because of the criteria used to categorize companies.

The U.S. Census Bureau counts only those firms which generate more than half of their total revenue from the sale of heating oil. That means if a marketer sells $10-million in gasoline and $9.9-million in fuel oil, that company isn't considered a fuel oil dealer. Census also doesn't count many of the mom-and-pop, one-truck operations.

Fuel Oil News, *NPN*'s sister publication, estimates there are more than 10,700 separate establishments which sell heating oil to end users (residential and commercial/industrial). Despite the discrepancy in the real numbers, there is general agreement that there has been at least a 9% decline in total dealers over the past five years. This attrition actually began in the mid-1970s following the first oil crisis.

The major oil companies, which had been major players in the retail market, were the

Table 1
Average Fuel Oil Prices & Margins
1984-1989

Year	Wholesale	Retail	Margin	Change
1984	$.819/gal.	$1.091/gal.	$.272/gal.	0
1985	.781	1.053	.272	0
1986	.480	.836	.356	+.084
1987	.535	.803	.268	-.088
1988	.481	.814	.333	+.065
1989	.581*	.860*	.279	-.054

*Estimated
Source: *U.S. DOE Energy Information Administration*

Table 2
How New Homes Were Heated - 1988
Market Share

Region	Gas	Electric	Oil	Other	No. New Homes Added
Northeast	45%	23%	30%	1%	187,000
Midwest	84	12	-	3	191,000
South	36	62	1	2	456,000
West	71	21	-	7	249,000
Total U.S.	54%	37%	5%	3%	1,083,000

first to pull out, ultimately withdrawing their support to the industry entirely. This has dramatically changed the marketplace as independent marketers and wholesalers have replaced the majors as the principal suppliers. A number of previously small marketers were suddenly thrust into prominence with the acquisition of major oil company retail operations in various areas.

Growth through acquisition continues to be an active business strategy in the heating oil industry. The most visible example of this practice is Petroleum Heat & Power Co. ("Petro") of Stanford, Conn., which has become the nation's largest independent heating oil marketer by way of some 90 acquisitions over the past 10 years.

The rationale behind the growth-through-acquisition philosophy is rooted in the industry's lack of confidence in maintaining its share of the critical new home market. Nationwide, new homes are almost all heated by gas or electricity (see Table 2), but oil heat went into 30% of the new homes in the Northeast last year. However, it has only been within the last three or four years that oil heat's market share in Northeastern new homes has been significant. Consequently, the reigning thinking is that growth can only be achieved by gobbling up competitors, a practice made into an art form by Petro.

Petro's strategy hasn't been without risk. The company is said to be highly leveraged and reported substantial losses for the second quarter of 1989 as a result of its acquisition activity. Losses were expected to continue in the third quarter as a result of its buyout of Long Island's 28-million gal./yr. Commander Oil Co. Petro's first quarter net income was $4.8-million, down more than half from the $11.3-million net in the first quarter of 1988.

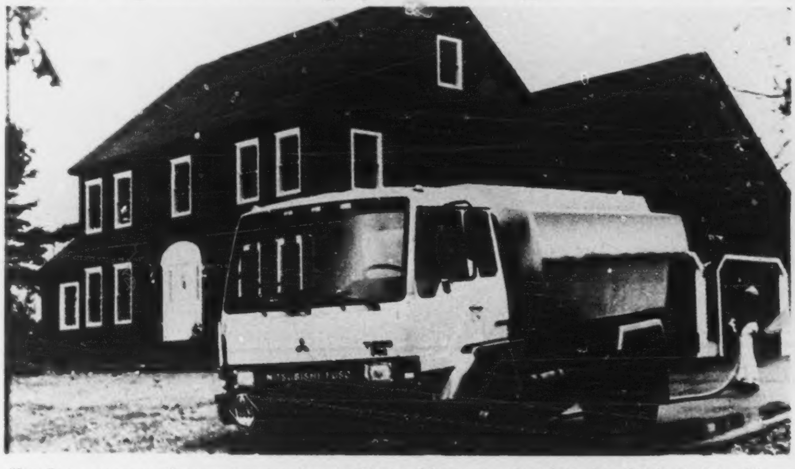
Much of oil heat's recent success in the Northeastern new home market is being credited to the aggressive advertising and public relations campaigns pioneered by the Metropolitan Energy Council (MEC) in the New York City area. This federation of oil heat trade associations in Long Island, New York City, northern New Jersey and southern Connecticut, has been a major force in creating hard-hitting TV commercials and collateral material which is now being used in virtually every other oil heat market in the U.S. and Canada.

Other headaches

The heating oil industry is faced with several other knotty problems, with environmental impact being a major one. This includes underground tank regulations and the liability insurance tied to it, as well as the new Clean Air Act.

There are direct as well as indirect implications in the Clean Air Act that could affect marketers. For example, they could be restricted from using No. 2 oil as diesel, thereby requiring them to store and use mandated, lower sulfur fuel. It might also require them to sell low sulfur fuels to certain commercial and industrial accounts.

The underground tank issue has been hovering like an executioner's axe for several years as the industry has struggled to keep it out of the political arena. Although federal legislation appears to exempt fuel oil tanks of less than 1,000-gal., state and local authorities appear to be free to enact stricter



New homes across the country are almost all heated by gas or electricity (see Table 2). Yet, oil heat went into 30% of the new homes in the Northeast last year. It is only within the last three or four years, however, that oil heat's market share in Northeastern new homes has been significant.

legislation, so marketers are forced to battle the issue not only in Washington, but in every state capitol and municipality as well.

Liability insurance to cover the financial responsibility required by UST regulations has been extremely difficult to obtain and many marketers claim that what is available is exorbitant.

Who's in charge?

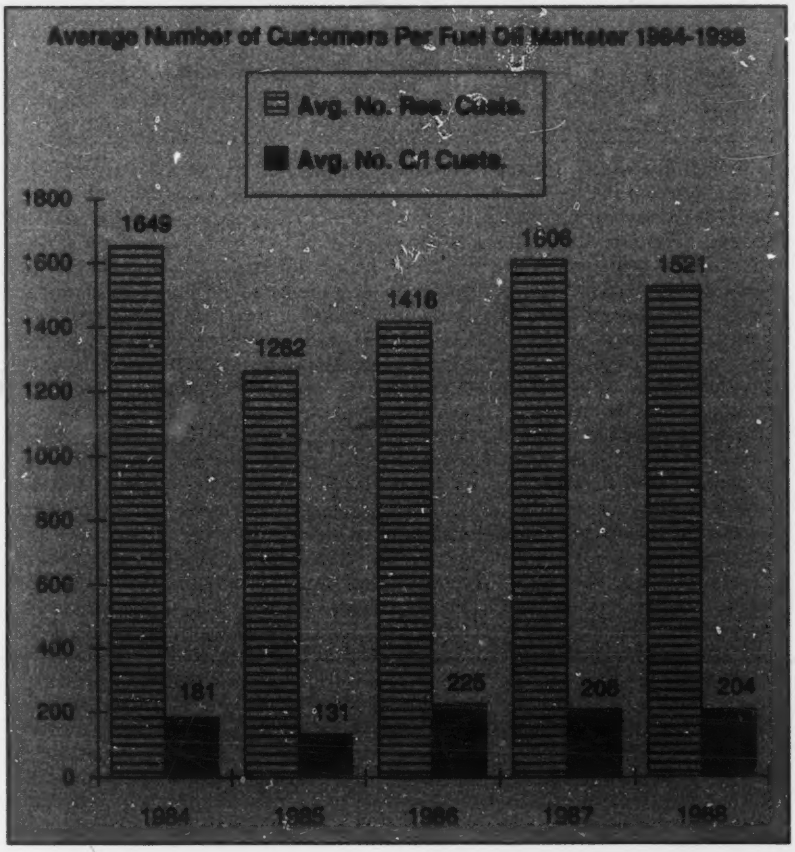
Industry fragmentation is yet another problem as each regional group insists on pursuing its own agenda. Petroleum Marketers Assn. of America executive vice president, Phil Chisholm, asked the industry to allow the Heating Fuels Committee to become the national voice of oil heat. His remarks were made at the committee's meeting held in conjunction with the National Oil Heat Marketing and Promotional Conference last August. He wants the Heating Fuels Committee to take the place of the Oil Heat Task Force, an ad hoc group formed by the "Big 7" oil heat dealers in the Northeast to fight the proposed underground tank regulations and other issues detrimental to oil heating interests.

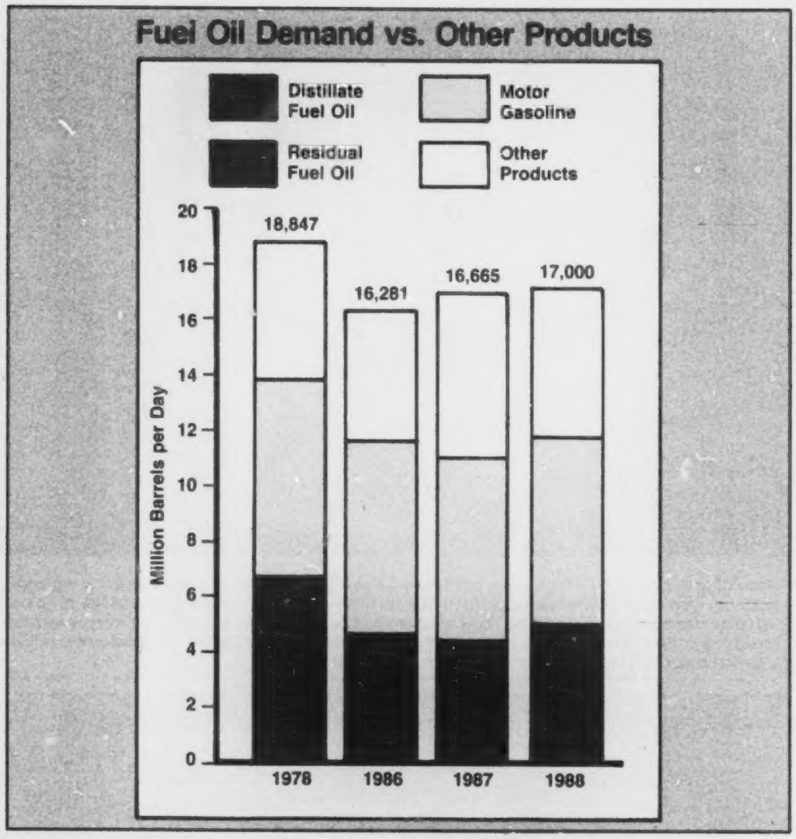
The proposal evidently fell on less than enthusiastic ears, so it isn't likely that any group will assume a leadership role in the foreseeable future. MEC, however, has become the de facto marketing arm for the industry as a result of its successful advertising campaigns.

MEC is proposing to raise $3-million this year for its advertising war chest, more than the cumulative total it has raised in its eight years of operation. A major portion of this goal will be financed through five-fold increases in allocations to the association members of MEC. For example, the Fuel Merchants Assn. of New Jersey's contribution would increase from about $200,000 in 1989 to nearly $1-million in 1990. More than one attendee at the conference raised an eyebrow when this was announced, and most industry observers feel that such increases will be tough to sell to the members.

Officials of the Council unveiled their 1990 plans at the Promo Conference, although they were very hush-hush about the specifics of their new ads. Plans are to spend $500,000 to create new ads and $2.5-million in media placement. Also proposed is a regional advertising cooperative in which local organizations would control their own media purchases but air the same commercials chosen and developed by a joint advertising committee. The organizations would all use the same advertising agency as well to improve their negotiating capabilities with the media.

According to a study by *NPN's* sister publication, *Fuel Oil News*, fuel oil marketers show a growing tendency to reduce or eliminate their in-house service departments. In 1988, just 46.3% of dealers sampled had a service department. This percentage has been in decline since the survey was first instituted in 1979, and preliminary 1989 figures, scheduled to be published this December, indicate a further reduction in the number of marketers who offer service.





Will "truth in advertising" become another problem the industry has to deal with? Maybe, say insiders, if the trend away from equipment service continues. MEC's advertising thrust touts the oil heat industry's "I'll be Right Over Service," yet the *Fuel Oil News* annual study amongst marketers has shown a growing tendency for them to reduce or eliminate their in-house service departments. In 1988, just 46.3% of dealers sampled have a service department. This percentage has been in decline since the survey was first instituted in 1979, and preliminary 1989 figures, scheduled to be published this month, indicate a further reduction in the number of marketers who offer service.

Reasons quoted for this phenomenon include the difficulty of obtaining and retaining qualified technicians, coupled with the emergence of an equipment service "cottage industry."

The 'other guys' problems

Meanwhile, not everything is rosy for the utility companies, either. Although new pipeline projects designed to bring imported Canadian natural gas to the Northeastern United States have been approved, the hardware needed to carry this gas has yet to be manufactured, which will take a number of years.

Before then, the "cheap and plentiful" scenario painted by the utility companies is expected to disappear. Experts predict a 25% increase in wellhead natural gas prices for 1990 because demand will outstrip supply.

Also tarnishing the gas industry's reputation is a recent environmental report on air pollution. It concludes that transmission losses throughout the gas network contribute as much or more to global warming as does the carbon dioxide created by oil burning equipment.

Between 2 and 3% of all gas shipped from utility to consumers is reportedly lost (with some utilities admitting figures as high as 6%) and the study explains that the methane (the primary ingredient in natural gas) dissipated into the atmosphere is 10 times as damaging to the environment as fuel oil emissions.

The heating oil industry is, of course, going to great lengths to publicize this study, "The Effects on Greenhouse Heating by Fuel Oil and by Natural Gas," authored by University of Minnesota Prof. Dean Abrahamson. The American Gas Association has challenged its findings, understandably, arguing that utility loss reports are not leakage but human error in calculating and reading meters.

Electricity hasn't been forgotten when it comes to problems either. The cost of electric heat is expected to increase, since much of the electricity in the U.S. is produced by oil-powered generators. Even nuclear-powered electric generating plants use large amounts of fuel oil. In 1988, electric utilities used 650-million gals. of distillate and 7.6-billion gals. of residual oil to generate electricity.

Equipment reliability still plagues electric heat pumps, which are claimed to be the panacea for indoor comfort. They still don't perform up to advertising claims, particularly in cold climates where expensive electric resistance coils must supplement the heat pump process.

Electric utilities are attempting to overcome the high cost of its fuel by offering sweetheart rates for off-peak consumption. However, this creative ratemaking designed to make electric heat more acceptable is under fire by gas and oil foes on the grounds of being discriminatory to non-heating customers.

So although both the gas and electric utilities have incredible advantages over oil heat marketers because of their monopoly situations, their large marketing budgets and superior organization, there are chinks in their armor.

Bullish, regardless

Despite the ominous signs on the horizon, the oil heating industry won't disappear in this century. The 1989 biennial New England Oil Heat Exposition drew the largest number of exhibitors (376) and attendees (10,000) ever recorded at an industry trade show. Similar records were set by the National Assn. of Oil Heating Service Managers at its annual convention and trade show in Lancaster, Pa.

Some of the excitement of those shows was later tempered, however, by inside news about the failure of several prominent equipment suppliers. Two boiler manufacturers were reported to be in bankruptcy and a major oil burner company was said to be in serious difficulty.

Nevertheless, the industry remains large ($9.3-billion in annual sales just for the 5,500 companies counted by U.S. Census) and will continue to be an important part of petroleum marketing for as long as most of us are still around.

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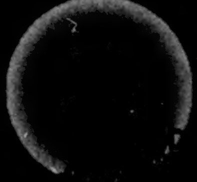
How Earthquake Affected Oil Facilities
Harken Energy Targets Rural Sunbelt
Why Car Wash Industry Is Modernizing

NPN

National Petroleum News



1990 Outlook:
Reflection Of '89 Maybe Better

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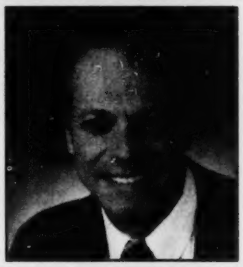

Editor's Viewpoint

No doubt there are many instances of people and organizations standing on principle, viewing issues with long range vision and recognizing responsibilities and standing by them regardless of cost or controversy. Still, when it occurs it seems rare because we're in an age that's too often dominated by expediency, short term thinking and ridicule of traditional values.

That's why SIGMA's response to a disagreement with Arco, which resulted in that company withdrawing from the association, stands out. With all that's happening in this industry, and in the world, it may seem a small event. But on another level—understanding obligations and acting on them in a principled manner—it is significant. Knowing the people at PMAA and NACS and other national and regional associations, I'm sure that given similar circumstances they would react the same way. But this time it was SIGMA's show, and it's worth noting.

Very briefly, the background is that USA Petroleum Co. in Santa Monica, Calif., won a circuit court decision against Arco in a case involving anti-trust laws. Arco appealed the decision and the Supreme Court will rule on it shortly. SIGMA filed an *amicus curiae* (friend of the court) brief supporting USA Petroleum. Carl Bolch, Jr., SIGMA's outgoing president, explained SIGMA's reasoning at the association's recent annual meeting. "It's SIGMA's understanding that vertical price fixing is per se a violation of anti-trust laws," he said, adding that Arco contends "their sales to their dealers must be below their cost" to violate anti-trust laws. Bolch said SIGMA thinks this would be "a very dangerous precedent" and filed its amicus brief to support a concept it thought was important. Arco, perhaps feeling duty-bound itself, dropped its associate membership with SIGMA.

In this context, the actual case and its legal points and rights or wrongs involved in the suit are immaterial. Arco might be correct; it might not. What's important is that SIGMA, no doubt realizing (or perhaps even having been told) that Arco might withdraw from the association, made its stand—probably a costly one, too; Arco's dues must have been substantial.

Bolch summed up SIGMA's attitude well: "We have to remember that the mission of SIGMA is the mission of its regular members [jobbers]. And that mission must always be foremost...We must always remember that we must be ready, willing and able to stand up on issues that are important to SIGMA's regular members. I'm very proud of SIGMA doing this. SIGMA will not be silenced."

What could I add to that? Except: Congratulations. Keep up the good work.

—Frank M. Victoria

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The outlook for the year ahead looks pretty much like a return engagement of 1989 for downstream marketers. But that's not bad; last year was a good one for the industry.

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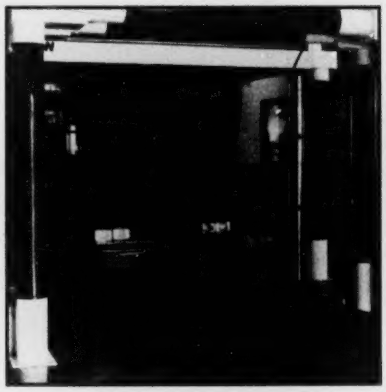

Encouraged by many oil companies, car wash and pump manufacturers are joining forces to develop high-tech accounting systems to generate detailed information on station activities.

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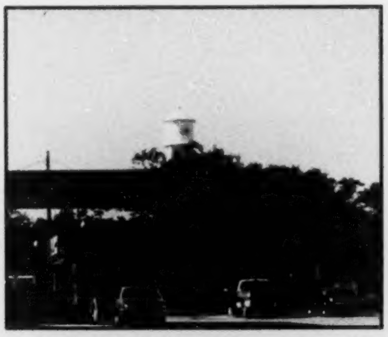

Texas-based Harken Energy Corp. has spread its oil field origins and, in a very short period of time, has established itself prominently in several different energy markets.

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• TRENDS

Do Quotas Remain Important To OPEC?

Almost from the beginning, members of the Organization of Petroleum Exporting Countries have argued loud and long about production quotas and market shares. Now a new scenario is emerging that will largely ignore such allocation formulas and vest control, instead, in the four or five Persian Gulf countries that have the most reserves—and the greatest wallop within the cartel.

It's a precarious concept in one sense but it could presage for American oil marketers the likelihood of adequate supplies and acceptable prices throughout the '90s. The wild ups and downs of the past would fade into history. Catch 22, of course, is the temperaments of the Big Four or Five. Petty jealousies, greed or acceptance of the fact that nothing is ever really stable in the Mideast could revise the scenario anytime.

The new design acknowledges for the first time that half of the cartel nations couldn't increase their output very much even if they were given bigger and better quotas. Among them are Gabon, Qatar, Indonesia, Algeria, Libya and Iran. Some simply do not have enough oil in the ground to support higher production schedules (and quotas) while others, like Libya and Iran, have adequate subterranean reserves but lack technology and equipment to bring the stuff to the surface. Some, like Libya, Indonesia and Algeria, may have serious problems simply meeting allocation schedules in the early '90s.

The "haves" in this equation are Saudi Arabia, Kuwait, the United Arab Emirates, Iraq and eventually Iran once it achieves postwar stability.

The new OPEC compact for the first half of this year raises the production level to 22.1-million b/d vis-a-vis the old schedule of 20.5-million b/d. The irony is that OPEC averaged more than 23-million b/d in the last quarter of 1989. In its own way, this tells you flat out what quotas mean and have meant to the cartel. Also, The United Arab Emirates have said—as they have right along—that quotas are for the birds and they will produce as much oil as the market will bear. So much for the integrity of future allocation schedules.

The expectation is that demand for OPEC oil will continue to grow in the '90s. If some of the member countries, as indicated above, can't increase their output above their current quotas (or higher ones in the future, for that matter), some shortfalls are likely to develop. Since there are no written guidelines for the others, the top four or five can ignore their quotas too and not only take care of the shortfalls, but meet higher demand easily from their abundant reserves. The $64 question is: Can they do it amicably or will they fight for every drop that each can get?

Here's the quota schedule for the OPEC members in the first six months of 1990:

Country	New Quota	Old Quota	Change Million b/d
Saudi Arabia	5.38	5.01	0.37
Iraq	3.14	2.93	0.21
Iran	3.14	2.93	0.21
Venezuela	1.95	1.81	0.14
Nigeria	1.61	1.50	0.11
Kuwait	1.50	1.20	0.30
Indonesia	1.37	1.44	(0.07)
Libya	1.23	1.15	0.08
UAR	1.10	1.10	---
Algeria	0.83	0.77	0.06
Qatar	0.37	0.35	0.02
Ecuador	0.27	0.25	0.02
Gabon	0.20	0.19	0.01

It is interesting to note that Indonesia's deficiency plight is such that its quota for 1990 is being cut by 7,000-b/d. There's no change in the production quota for the United Arab Emirates, the cartel's most flagrant over-producer. The UAR, in 1989, released a study upgrading its oil reserves tremendously. The Emirates say they have more oil in the ground than Saudi Arabia. Could this be the first step in a campaign to displace Saudi Arabia as the biggest oil power in the Gulf? It's something to keep an eye on.

—by J. Richard Shaner

• MARKETPLACE AT A GLANCE

AVERAGE GASOLINE PRICES IN THE U.S. (per gal.)

OCTOBER	Gasoline (All types)	Leaded Regular	Unleaded Regular	Unleaded Premium
U.S. City Avg.	$1.071	$1.001	$1.027	$1.209
Regions				
Northeast	1.102	1.071	1.030	1.237
North Central	1.085	1.037	1.052	1.234
South	1.061	1.019	1.008	1.176
West	1.043	0.972	1.015	1.215

Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

STOCKS (add 000 bbl.)

	12/1/89	12/2/88
Gasoline (total)	223,080	219,642
Gasoline (Unleaded)*	166,940	123,877
Jet Kerosine	44,293	38,458
Distillates	122,458	128,882
Residual	52,557	42,785

** Included in gasoline total.*
Source: American Petroleum Institute.

Outlook 1990: A Reflection Of '89, But Some Improvement

Downstream marketers who had reasonably good and profitable operations in 1989 can look forward to more of the same this year.

It's almost like reciting "de ja vu all over again"—with minor and modest improvements for just about everyone in oil. But jobbers, dealers and others agree that even de ja vu with touches of optimism is infinitely more desirable than minus-signs and negative outlooks.

Federal and industry analysts believe that the next 12 months will be a virtual replay of 1988 and 1989 where the industry's vital statistics are concerned.

They say that products, prices and profits will be firm and predictable so long as there are no major upheavals at home or abroad.

Nothing world-shaking is in the forecast, they say, just continuation of the improvements that have been slowly distancing the industry from the pain of the supply, demand and price traumas of late 1986 and early 1987.

It used to be that year-end prognosticators were all over the place in the petroleum industry. Today there are only a few still in business, with the federal government's Energy Information Administration (EIA) and the oil industry's Independent Petroleum Assn. of America (IPAA) the best of what's out there.

Wall Street and the financial houses often have forecasts but generally they're circumscribed to serve their own purposes.

The 1990 projections of the EIA and the IPAA vary a bit but are relatively close in their conclusions.

Gasoline demand up

The federal government, for example, believes gasoline demand will be up about 1% in 1990. IPAA is a bit more conservative in this area. It anticipates a growth of only 0.4%. The big point is that they concur in foreseeing improvement in 1990.

The federal government expects distillate consumption to average 3.17-million b/d while IPAA projects an average consumption of 3.26-million b/d. This would seem to indicate that IPAA is more bushytailed than EIA about consumption growth in 1990. But that's not quite the story. IPAA's estimate for 1989 consumption of distillates was 3.24-million b/d while the federal government's was 3.12-million b/d. Thus the bases are different and, on a percentage comparison, the government's anticipated increase is 1.6% while IPAA's is 0.6% Either way, however, both forecasts are on the plus side.

By J. Richard Shaner
Executive Editor

The two groups of analysts also agree on another item. The gains in distillate sales in 1990 will have little or no meaning for the purveyors of home heating oils. They'll be the end result of the continuing increase in the size of the diesel cut for transportation.

IPAA doesn't get into price projections for the consumer marketplaces so this is an area that the federal government has pretty well to itself.

Its latest Short-Term Energy Outlook, distributed in mid-November, says retail gasoline prices will average $1.09/gal. in 1990. That's up 3¢/gal. over 1989's $1.06/gal., which in itself was up 10¢ over 1988. These numbers are for all grades and services and include federal and state taxes.

Gasoline prices in the 1990s are expected to peak at $1.13/gal. in the third quarter of this year, then dwindle to $1.05/gal. in the fourth quarter, which is only 1¢ higher than where they were at the end of 1989.

In May of last year, the highest average price was $1.15/gal. By September that had declined to $1.07/gal. The September price, in its own right, was 28¢/gal. lower than the all-time high of $1.35/gal. that prevailed in 1981. The 1990 forecast of $1.09/gal., if it proves to be accurate 12 months hence, will be 26¢ under the all-time high.

Leaded regular surprises

A mild surprise, of sorts, is the fact that the phasing out of leaded regular gasoline is expected to end abruptly in 1990, at least for the time being. The general feeling had been that demand for leaded regular would continue to skid in 1990 and would wind up at perhaps the 10% level for a loss of two percentage points. Now the expectancy is that leaded regular will hold on to about 12% of the volume this year, the same as in 1989. This is only a minor difference but it's the first stoppage in the decline that began a decade ago.

Another item of interest in the EIA study was that last summer, premium's share of the gasoline market declined from 25-22%. Midgrade increased its share, at the same time, from 5-7%. Unleaded regular, EIA says, benefited from both the continuing erosion of leaded regular's share of the market as well as the switch away from unleaded premium, rising from 57-61%.

These shares vary regionally, however, with consumer buying patterns and oil company advertising and promotion. In the East, for example, premium sales have been reported in the 35% range, with the midgrade unleaded around 10-12%. In the Southeast premium unleaded sales were known to be higher than 50% for some marketers, notably Shell and Amoco. There have been a number of studies in the last year or so which contended that most cars on the road do not need premium fuels and that many consumers are being "huckstered" as a result.

Wholesale and retail prices for No. 2 distillates for space heating purposes aren't going to change much, according to the EIA forecast. Wholesales are pegged at 54¢/gal.—no change from 1989. Retails are expected to be up 2¢ over the course of the year, averaging 88¢/gal.

The EIA outlook is based on the probability that international crude oil prices will be fairly stable in 1990. The Organization of Petroleum Exporting Countries (OPEC), which is the monkey wrench factor in virtually all major price developments, indicated at the end of 1989 that it would like crude oil prices to average out around $18/bbl. EIA is betting that they'll be a bit less than that—$17.50/bbl.

As has been the rule in recent years, the bothersome factor is that OPEC members talk a lot about stability and quotas but many only pay lip service to the compacts they grubbily sign every couple of months.

The $17-$18/bbl. range is a liveable area for the domestic industry in the '90s although most majors and bigger independents would like to see crude prices go up, preferably to the $20-$22/bbl. range. It's interesting to note that the relatively recent talk about $50-$100/bbl. by 2000 all but vanished in 1989.

Another thing to bear in mind is the 1990 weather forecast. Last winter (1988-'89) was 4% colder than normal. If this winter is normal or warmer than normal, distillate deliveries and prices could be in for bad times. If that happens, gasoline inventories would be rebuilt too rapidly and suppliers would be forced to open the spring and summer driving seasons in distinctly uncomfortable pricing positions. Otherwise distillate news contains no surprises or even the hint of tight supplies.

Nightmares in the making

U.S. crude oil production is expected to average less than 7.4-million b/d in 1990, a decrease of 329,000-b/d from 1989's 7.7-million b/d which, in turn was down 460,000 b/d from 1988. In 1985, crude oil production rebounded to almost 9-million b/d. The 1990 production projection includes about 25,000 to 30,000-b/d from Point Arguello, an offshore California field discovered seven or eight years ago and only now coming on stream. It takes that long.

Imports of crude oil and products, according to IPAA, will average 8.4-million b/d in 1990, up 4% over 1989 which were up 10% in 1989. The trade association noted that the 1990 import dependency will match the 1977 peak of nearly 46% of supply.

Transcending all these relatively routine supply, demand and money forecasts are the incredible array of political and environmen-

American dependency on oil imports is rising and will probably continue. U.S. crude production is expected to average less than 7.4-million b/d in 1990, a decrease of 329,000-b/d from 1989, which was down from 1988. The 1990 production projection includes about 25,000-30,000-b/d from Point Arguello, an offshore California field discovered seven or eight years ago and only now coming on stream. Imports of crude oil and products, according to IPAA, will average 8.4-million b/d in 1990, up 4% over 1989 which were up 10% in 1989. The trade association noted that the 1990 import dependency will match the 1977 peak of nearly 46% of supply.

Gasoline demand will increase this year. The federal government expects gasoline demand will be up about 1%. IPAA is a bit more conservative, anticipating growth of only 0.4%. The big point is that they concur on improvement in 1990.

tal traumas raking the industry, from service station pumps to exploratory activities in the oil fields.

Ten years or so from now, as a matter of fact, the year that just began may be looked back upon as the one that signalled the end of oil products and oil marketing as they exist today.

The winds of change are coming on strong now and are approaching the howling stage with feverish impatience. Many already sense that 1989-'90 is the advent of an inevitability that's long overdue.

For them, it's no longer a question of if—it's only how soon.

This is not to be considered a prophecy of doom or irreversible trend by any means. Likewise, it is not to be construed as a negative forecast that oil marketers and oil products are likely to be relics of the past at the end of the '90s.

To the contrary, it is simply tacit recognition that major turnarounds are in the making; that the winds that are blowing now can't help but be irresistible by the mid-'90s; that the marketers who survive this, the last decade of the 20th Century, will be bigger, stronger, better equipped and infinitely more facile in the way they do business in 2000.

There'll be more tougher, tighter regional oil companies, and fewer, if any, national companies marketing in the majority of the 50 states, let alone all of them as commonplace in the '60s and '70s.

PMAA viewpoints

Petroleum Marketers Assn. of America's (PMAA) Long-Range Planning Committee supports this view. In a recent published commentary, executive vice president Phillip R. Chisholm, for example, summarized the responses to the committee's probing questionnaire about the future of independent gasoline and fuel oil marketers in these words:

"The prevailing view appeared to be that the coming years will see fewer but stronger marketers, and that these 'survivors' will be an important part of the country's total marketing mix. In order to do so, they will have to be even more sophisticated, more flexible and, yes, more competitive.

"There was almost unanimous agreement that the federal government, already an important factor in every marketer's business, will play an even larger role in the future, particularly with regard to the environment."

The long-range committee says of the 10,000 independents in business now, only 7,000 will still be around in 1995 and of these, only 5,000 will be on tap in 2000. In other words, a 50% reduction in the total number of independent oil marketers. (See related story on page 33.)

There is no question that the gasoline and fuel oil industries are still in the throes of retrenchment. The problem here is that neither government, nor industry nor anyone else has been able to come up with accurate nosecount numbers rather than "guesstimates."

The U.S. Census Bureau's most recent population count, made at the end of 1987 and published in late 1989, says there were only 105,000 "true" service stations in business on Dec. 31, 1987 *[NPN*—Nov. 89, p23]. "True" was defined as business places with payrolls getting more than 50% of their revenues from gasoline sales. Informal counts indicate there are 40,000 or so convenience stores and others selling gasoline, and perhaps as many as 10,000 stations without payrolls,—the traditional Mom-and-Pop type outlets.

On an orthodox basis then, the Census Bureau count says service station population of 105,000 at the end of 1987 was 121,000 below the all-time high of 226,000 in 1972. Industry experts believe this down trend continued in 1988 and 1989 and is expected to keep going that way in 1990 although at a slower pace. It would not be surprising though that if another census were made at the end of 1990, the total would be under 100,000.

Against this sort of a backdrop, downstream independents should keep in mind the report of PMAA's Long Range Study Committee and the words of Chisholm: "Interestingly, the principal tenet of the (committee's) base case scenario is that (in the 1990s) there will be fewer but stronger petroleum marketers (but they) will be able to retain or increase slightly their market shares."

New world of products

By the year 2000, oil companies and oil marketers will be making, buying and selling a variety of new motor fuels, heating oils, avgases and lubricants. The transportation vehicles themselves and the equipment that heats homes and offices, generates light and power and enables monstrous ships to sail the seas will be different too. They may have

Full
Cash
Exxon Regular
1.02 9/10
Exxon Unleaded
1.08 9/10

Unleaded regular, EIA says, benefited from both the continuing erosion of leaded regular's share of the market as well as the switch away from unleaded premium, rising from 57-61%. Still, leaded regular has been somewhat of a surprise. Its phase out is expected to end abruptly in 1990, at least for the time being. The general feeling had been that demand for leaded regular would continue to drop this year. But now the expectancy is that leaded regular will hold on to about 12% of volume, the same as in 1989. This is only a minor difference but it's the first stoppage in the decline that began a decade ago.

the same or near-similar names in the year 2000, but that's about all. Gasoline, as it's constituted today, will be a thing of the past.

The industry that will supply the new breed of marketers with products will be different too—more than a stone's throw removed from the potpourri of explorers, producers, refiners and transporters who really haven't changed themselves or their techniques and technologies that much from the original molds and concepts of a century ago.

Consider, for example, the turmoil that's suddenly overtaking motor fuels. Two or three years ago reformulation of fuels, alcohols, methanol, etc., got more lip service than action. Today, there's near panic in the air (clean air, that is) as the oil and automotive industry jump head first into a cooperative research program for new motor fuels and engines that may ultimately cost $25-million to $50-million. The automakers have been mandated by the federal government to have a million new cars available by 1995 that will burn methanol straight, or methanol mixed, or other chemical additives or alcohol enhanced fuels. Even natural gas and propane are real live prospects. California is already testing methanol fleets. Chevron, Arco, Sun and others are in the marketplaces with adulterated fuels. By the end of this year, probably everyone of significance will be doing the same thing. They're trying desperately to hold on to the past but at this point are willing to do almost anything to insure themselves a role in the future.

There's little doubt that political issues will be compounded in 1990 and the pressures will be relentless throughout the decade. Underground tanks and tank insurance remain a big factor, but the clean air plan, reformulation of gasoline (possibly requiring additional separate storage tanks and pumps), colorization of diesel fuels for highway and household uses, motor fuel tax hikes and many other legislative and regulatory issues will also weigh heavily on marketers.

Octane numbers will probably lose their impact as the Holy Grails of progress and sales promotion. They're important. But they're already losing their luster as hordes of foreign and domestic small cars as well as abandonment of the high, 11-to-1 compression ratios of the past have done them in. A bit of octane irony: In 1927, a skinny young kid from St. Louis, Lindbergh by name, flew a monoplane from New York to Paris with 87-octane gasoline, the best available at the time. By way of comparison, current octane numbers range from 87 to 94.

Environmental Issues

There's no question that these and other political issues will be compounded in 1990 and the pressures will be relentless throughout the decade. Clean air, clean water, underground storage and spiraling insurance costs, reformulation of gasoline (possibly requiring additional separate storage tanks and pumps), colorization of diesel fuels for highway and household uses,

PMAA Forecast: '90s Will Be Wicked; Only Half Will Survive

Stricter environmental regs, supplier withdrawals, buyouts and mergers and intensified competition from the majors—these are the ingredients that Petroleum Marketers Assn. of America believes will impact heavily on independents over the next 10 years.

An 18-member, long-range planning committee, headed by old pro Jack Griffith (PMAA president in 1985), was almost grim in its projection on what lies ahead for gasoline and fuel oil marketers.

Of the 10,000 or so in business right now, expect 3,000 to be casualties by 1995, the committee said. During the next five years, drop another 2,000 from the active business rolls. By 2000 A.D., only 5,000 will be on the scene— leaner, tougher and all that but nevertheless only half of as many as are out there now.

A ray of sunshine: The survivors should be able to retain the market share they presently control.

There were three scenarios presented to PMAA's meeting in Louisville, Ky., in November. a Base Case, a Best Case and a Worst Case.

The Base Case anticipates the drastic reduction in the number of independents surviving—5,000 instead of 10,000. They'll grow in size and volumes but they'll have to be innovative and facile to do it. There'll be adequate supplies at competitive prices but alternative fuels are going to change things for many of them.

The Best Case anticipates that major suppliers will continue to regard the independents as valuable in their operations. There won't be any supply or price problems although alternative fuels will force them into new channels. The future will be relatively free of oil import fees, divorcement and divestiture complications and will find state and federal environmental regulations easier to cope with. No new tax increases would be a part of this projection.

The Worst Case anticipates wholesale application of Murphy's Law in all directions. Alternative fuels would be mandated, environmental regs would grow in cost and complexity, banks would be reluctant to advance money to struggling independents. Federal divorcement and divestiture would be serious problems and supplies would be inadequate, bringing on an oil import fee and an increase in the excise tax.

Not long after the report was distributed, PMAA set up an Ad Hoc committee to map out courses of action and reaction.

1990 FORECAST: SOME SMALL GAINS

BY THE QUARTERS

	—1990 Projections—				—1989 History—			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q*	4Q*
DEMAND (million b/d)								
Motor Gasoline	7.05	7.59	7.58	7.41	7.08	7.46	7.47	7.36
Leaded	.91	.94	.90	.84	1.00	.92	.76	.99
Unleaded	6.14	6.65	6.68	6.57	6.08	6.54	6.72	6.37
% Unleaded	87%	88%	88%	89%	86%	88%	90%	87%
Distillates	3.56	2.96	2.81	2.35	3.38	2.98	2.83	3.30
Residual	1.39	1.03	1.10	1.24	1.60	1.24	1.12	1.28
Total U.S. (a)	17.69	16.84	17.29	17.82	17.62	16.81	16.89	17.69
PRICES (per gal.) (b)								
Motor Gasoline (c)	1.08	1.11	1.13	1.05	.96	1.13	1.11	1.06
No. 2 Diesel Fuel	.98	.96	.96	.97	.94	.99	.95	.97
No. 2 Heating Oil								
Wholesale	.53	.52	.52	.56	.53	.53	.52	.57
Retail	.91	.87	.84	.89	.86	.86	.83	.88
Residual (d)	.41	.39	.40	.41	.36	.41	.39	.40

ANNUALIZED COMPARISONS

	Full Year			Percent Change		
	1990	1989	1988	'90/'89	'89/'88	'88/'87
DEMAND (million b/d)						
Motor Gasoline	7.41	7.34	7.34	1.0	0.0	1.8
Leaded	.90	.92	1.34	(0.2)	(31.3)	(23.0)
Unleaded	6.51	6.43	6.00	0.1	7.2	0.1
% Unleaded				88%	88%	82%
Distillates	3.17	3.12	3.12	1.6	0.0	4.7
Residual	1.19	1.31	1.38	(9.2)	(5.1)	9.5
Total U.S. (a)	17.41	17.25	17.28	0.9	(0.2)	3.7
PRICES (per gal.) (b)						
Motor Gasoline (c)	1.09	1.06	.96	2.8	10.4	0.0
No. 2 Diesel Fuel	.97	.96	.91	0.1	5.5	(2.2)
No. 2 Heating Oil						
Wholesale	.54	.54	.47	0.0	14.9	(11.3)
Retail	.88	.86	.81	2.2	6.2	0.1
Residual (d)	.40	.39	.33	2.6	18.2	(21.4)

* Third and Fourth quarters '89 are estimates; (a) includes all other oils; (b) includes federal and state taxes on all products except heating oil which is not taxed; (c) average for all grades and services; (d) average for all grades of sulfur.

Source: Energy Information Administration, Short-Term Energy Outlook, October.

motor fuel tax hikes, etc. There are so many of them that for many marketers it will be like swatting mosquitos night and day to stay alive and well.

At the American Petroleum Institute meeting in November, one speaker warned that growing popular and political sentiment to curb air and water pollution and slowing the global warming trend will exact an increasingly heavy toll on suppliers and distributors alike.

"The public policy debate is pointing inexorably to higher costs and lower demand for petroleum product," one Washington analyst said.

An Environmental Protection Agency executive laid it right on the line at the same meeting. Stronger steps are in the making to force further reduction in toxic emissions, he said. The Exxon Valdez oil spill in Alaska was cited as a clearly inept way of rising to the challenges that face the industry.

At the PMAA meeting in Louisville in November, C.J. Silas, president of Phillips Petroleum Co., said it is very clear that environmental stewardship will be "the" issue of the '90s and that marketers especially must keep themselves deeply involved. A closing comment: "We do not inherit the land from our ancestors. We borrow it for our children."

New PMAA president Bruce Chiles urged marketers at the same meeting to focus their attention on the opportunities of the decade ahead, not the problems.

"Those marketers who wring their hands and bemoan their fate or make no effort to impact their fate are probably not long for this world," he said. "Those who obtain the same information and say, 'How can I make money out of this?' are the ones that'll be around for a long time."

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What To Know About Site Contamination
How Laser Scanning Helps In C-Stores
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NPN

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UST Udate:

Marketers Plan Their Next Move

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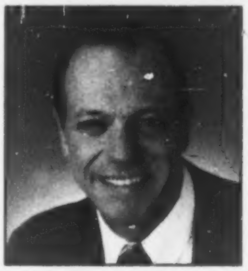

Editor's Viewpoint

It's been a year since the EPA's finalized UST regulations went into effect. This month's update indicates that although the situation has stabilized, the industry is still in flux—some would say shock—from the demands imposed by those regs (and many others unleashed in recent years).

The cost has and will be considerable and dire consequences have been predicted. A survey just after the regs were released said 27,000 to 35,000 stations could close within a year. And a recent PMAA long range planning committee study said that of the 10,000 marketers now in existence, 3,000 could be gone by 1995 and 2,000 more might disappear by the year 2000. It's too soon to say how accurate such forecasts will be, although there are a lot of us who think jobbers will again prove more resilient than expected. Most have come to terms with the technical end of the regs. What must concern them now is insurance to meet financial responsibility requirements.

Finding affordable insurance is the thorniest problem for many jobbers and some have thrown up their hands and gone naked—a dangerous move. Don't count on the EPA turning a blind eye to insurance compliance. It initially said enforcement would concentrate on the technical regs and financial responsibility had a low priority. But it's hard to imagine EPA inspectors making such a distinction in the field. Would an inspector check compliance with technical regs and ignore the possibility that insurance rules weren't being met? Would he give violators a pass? And with all the attention now being focused on the environment can the EPA of all agencies afford to show leniency. Lately, the agency doesn't sound as if it has a relaxed attitude about insurance, at least for big jobbers. Officials have noted that the October deadline for marketers with 100-plus tanks is long past and one was quoted as saying that about half of the large marketers have coverage and insurance is probably available to many who don't. In short, if you want it, it's there; and if you don't get it, watch out.

Meanwhile, smaller marketers with 13-99 tanks, must meet the insurance regs this April. Most can't absorb the price as well as their larger counterparts and few, if any, can self-insure as some big jobbers and oil companies have. But they at least may get some relief. The EPA's Ron Brand told Congress last year that although suspending enforcement of this April deadline is not warranted at this time, the agency is monitoring the situation and has not totally ruled out the possibility. In addition, House and Senate bills were introduced last year to suspend the financial responsibility requirements for a year. The House bill has 88 co-sponsors; the Senate bill 22. At the same time, more insurers are offering tank coverage, which may lower prices. Maybe there's a light at the end of the tunnel.

—*Frank M. Victoria*

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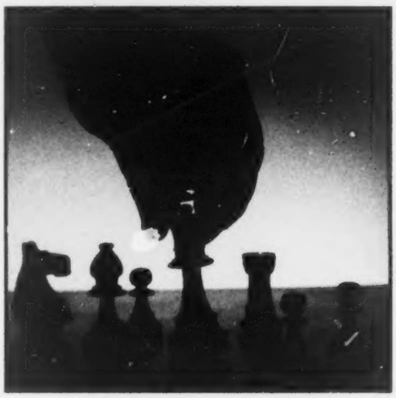

As the new decade rolls out, many marketers are in a quandry about how to comply with EPA's underground tank regs and financial responsibility requirements. Here's a special update report by NPN's staff.

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Nowadays, the prime consideration in buying a marketing property is the issue of tank-site contamination. Both buyer and seller are advised to confront the problem straight on.

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Product scanning will revolutionize the convenience store checkout process in the next decade—and it could be sooner than later. Here's what to look for in this exciting new technology.

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• TRENDS

Alternate Fuel Cars Almost Sure For '90s

There are two or three things that oil marketers are going to have to watch very closely as we enter the last decade of the 20th Century.

The first of these is Amoco's experiment with natural gas facilities in four Denver service stations. Similar test programs have taken place in California in recent years and in other limited locations. But somehow, this one seems different. It's an open acknowledgement by a major oil company that this may be a very feasible way to market after the year 2000—which isn't really that far off. And other oil companies are also experimenting, attempting to adapt to a new market atmosphere influenced more by the ever increasing concern about the environment.

Car and truck engines that burn natural gas as their fuel aren't drawing board fantasies. They're here now. Some have been in a fleet-testing procedure for several years. In addition, contemporary cars can be modified for about $1,500. The gas vs. gasoline economics aren't bad. The biggest problems to grapple with are fuel storage tanks and enough service stations to take care of their needs. Like a pair of dogs biting each other's tail, one leads to the other. Amoco's experiment could be the trail blazer.

The answers aren't going to come overnight, of course. They're going to take time. But it's a marketing diversion that should be watched closely.

This, of course, is backgrounded against the sudden hysteria over reformulated fuels and the possibility that methanol may be a partial or complete substitute for gasoline by 2000 or thereabouts.

The industry is certainly focusing more and more attention on the reformulated fuel concept, seeing it as one of the better solutions to the problem of polluted air, the so-called "greenhouse effect" and what some people say is a disappearing ozone layer. The recent announcement of a multi-million dollar joint oil company/automaker research program is an example of how serious both these industries are taking the matter.

And well they should. Don't expect any backing down by the federal government or the environmentalists in their drives for cleaner atmospheres and iron-clad controls on storage tanks and transport systems, especially barges and big boats, regardless of the cost or the limitations. That simply isn't in the cards.

The touch-and-go games of the past are over. Oil companies which have had liquid fuels as a private preserve for more than a century are suddenly looking at a whole new world and a whole new way of powering cars. Anything is likely from now on.

And natural gas vehicles aren't the only things to watch. There are other technologies which are long past the conceptual stage. Keep an eye on battery-powered cars too. General Motors displayed one such vehicle in California last month which, it says, could well be a marketplace item by 1995.

There are problems to be resolved. It can only handle about 120 miles before the batteries need recharging; and every two years the batteries themselves must be replaced at a cost of $1,500 or so. Suppose, one day in the '90s, some one comes up with a new formula for batteries, i.e., reduces their size and weight and provides them with enough power to do 1,000 to 2,000 miles before recharging. How long would it be before they would be "second cars" for most families—thereby cutting into the liquid fuel market too and all but eliminating most of the environmental problems created by today's cars?

Still another item to watch this year and next is the capital spending forecast for gasoline marketing facilities. Surprisingly, these jumped to $6.2-billion in 1991 (see page 21) after what appeared to be a leveling off in 1989.

Much of the biggest hunk of expenditures for underground storage tanks and monitoring controls on pumps and tanks (including Stage II) will be over by the end of 1991. The industry from there on will be facing a future not knowing whether the motive power for cars will be gasoline, straight methanol or mixtures thereof, natural gas, batteries, or something no one has even thought of yet.

—By J. Richard Shaner

• MARKETPLACE AT A GLANCE

AVERAGE GASOLINE PRICES IN THE U.S. (per gal.)

NOVEMBER	Gasoline (All types)	Leaded Regular	Unleaded Regular	Unleaded Premium
U.S. City Avg.	$1.046	$0.975	$0.999	$1.187
Regions:				
Northeast	1.093	1.075	1.017	1.234
North Central	1.053	1.015	1.018	1.210
South	1.032	0.992	0.980	1.144
West	1.014	0.945	0.981	1.191

Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

STOCKS (Add 000 bbl.)

	12/29/89	12/30/88
Gasoline (Total)	216,932	228,627
Gasoline (Unleaded) *	161,761	148,873
Jet Kerosine	36,290	37,808
Distillates	108,189	126,764
Residual	44,016	45,069

** Included in gasoline total.*
Source: American Petroleum Institute.

NPN

NATIONAL PETROLEUM NEWS FEBRUARY 1990

Marketing Capital Spending Expected To Hit Record Levels

There's no easy way to explain the changes, but capital spending projections for oil marketing in 1989, 1990 and 1991 have been restored to the record-breaking levels that were believed to be on the horizon in the fall of 1988.

Not only that, the new projections by Data Resources, Inc., a subsidiary of McGraw-Hill, Inc., indicate capital spending on the oil industry's downstream marketing facilities will exceed $6-billion for the first time in history.

DRI analysts say they were unable to explain what happened in the spring of 1988 when the projections suddenly cooled off and instead of continuing the steady advance of recent years, they were summarily downgraded to $4.9-billion from the $5.1-billion estimated in the fall of 1988 [*NPN*—July '89, p8].

The new DRI forecast, issued in mid-December, says capital spending for oil marketing penetrated the $5-billion stratosphere for the first time in 1989 and is vaulting to the skies this year with a 25% increase to $6.3-billion.

Some surprises

Inexplicably, there's an abrupt down curve projected for 1991—an 18% slump to $5.2-billion. Nevertheless, the spending projected by the DRI forecast for this year remains in the $5-billion-plus category, a head-swimming figure for most marketers who thought that $1-million was an awful lot of money for them and their facilities only a few years back.

Capital spending plans for the oil industry as a whole are on the upward trail too, but it's hard to say by how much and it's equally difficult to reconcile them with the rosier forecasts of fall 1988.

DRI says it was unable to make a 1991 projection for petrochemical spending because it had too few replies in hand to provide the hard numbers needed for solid forecasts.

The lack of this number for 1991 precluded the possibility of a national total. However, if petrochemical spending would be no worse than the $2-billion forecasted last spring, the 1991 total should be around $46.3-billion. That's about 7% higher than last year.

While this is nice and all that, the $46-billion is way below the $50.4-billion that had been projected in late 1988.

The new underground storage tank regs that are transitionally going into effect now may be the good reason why capital spending in petroleum marketing is at record-breaking levels. The federal and state regs are closing in on gasoline marketers, with 1990-to-1995 deadlines staring them in their faces.

Marketing Spending Skyrockets Again in 1990 and 1991

(Add 000,000)	Dec. '89 Forecast	% Chng.	June '89 Forecast
MARKETING			
1991 (Planned)	5,157	(18.0)	$4,846
1990 (Planned)	6,288	24.9	4,948
1989 (Estimated)	5,036	2.9	4,885
1988 (Actual)	4,896	12.5	4,896
1987 (Actual)	4,352	23.4	4,352
TRANSPORTATION *			
1991 (Planned)	2,776	20.9	2,585
1990 (Planned)	2,296	(7.7)	2,567
1989 (Estimated)	2,488	1.7	2,673
1988 (Actual)	2,447	35.6	2,447
1987 (Actual)	1,805	(52.7)	1,805
EXPLORATION AND PRODUCTION			
1991 (Planned)	29,119	18.7	24,344
1990 (Planned)	24,529	4.8	23,443
1989 (Estimated)	23,396	(9.2)	20,383
1988 (Actual)	25,780	21.6	25,780
1987 (Actual)	21,199	7.2	21,199
REFINING			
1991 (Planned)	3,240	2.9	3,024
1990 (Planned)	3,120	8.1	2,998
1989 (Estimated)	2,885	23.2	2,566
1988 (Actual)	2,193	15.0	2,193
1987 (Actual)	2,079	(16.1)	2,079
OTHER **			
1991 (Planned)	6,858	18.5	6,712
1990 (Planned)	5,786	4.3	6,595
1989 (Estimated)	5,549	10.4	6,438
1988 (Actual)	5,025	17.7	5,025
1987 (Actual)	4,269	4.8	4,828
PETROCHEMICAL			
1991 (Planned)	N.A.	--	2,030
1990 (Planned)	2,231	7.9	2,129
1989 (Estimated)	2,067	37.0	2,201
1988 (Actual)	1,509	49.1	1,509
1987 (Actual)	1,012	17.6	1,012
U.S. TOTAL			
1991 (Planned)	N.A.	--	43,541
1990 (Planned)	44,250	6.8	42,680
1989 (Estimated)	41,421	(1.4)	39,146
1988 (Actual)	41,850	21.1	41,850
1987 (Actual)	34,715	0.5	34,715

* Does not include gas pipelines; ** Includes coal mining by oil companies; N.A.: Insufficient replies to make valid projections. Special note: If petrochemical's projection for 1991 was no worse than last summer's $2,037, this would make the U.S. total approximately $46,287. Source: Data Resources, Inc., McGraw-Hill, Inc., 36th Annual Survey of Preliminary Plans for New Plants and Equipment 1989-1991. Data collected in Sept., Oct. and Nov.; published Dec. 8, 1989.

ADA Civil Rights Bill Survives First House Test

Still having to fight through a gauntlet of House subcommittees, a controversial civil rights bill cleared its first hurdle last November when the House Education and Labor Committee unanimously approved the Americans with Disabilities Act (ADA) of 1989. In the process, the committee placated some of ADA's opponents by eliminating some of the ambiguities surrounding the bill.

Aimed at eradicating discrimination against the mentally and physically handicapped, both in access to employment and public accommodations, ADA has been a major concern of many business groups, including the National Assn. of Convenience Stores (NACS).

In approving the measure, the Education and Labor committee either relaxed its stand or eliminated altogether much of the uncertainty in the first draft that had galvanized many of ADA's opponents, including NACS. NACS top priority was to resolve the sketchy definition of an "undue burden."

One extreme undue burden, says Jack Strayer, NACS's director of government relations, might have required C-stores to institute braille for blind employees. Under the toned-down version, such a requirement would be eliminated. Another would have forced C-store owners to install special telecommunication systems, similar to fax machines, to facilitate deaf employees.

Other less severe burdens that still haven't been ruled out include constructing double-wide aisles and lowering shelf, cooler and counter height to accommodate wheelchair-bound patrons. [*NPN*—Jan. '90, p27]

Strayer says passage of ADA will change the way C-store operators approach hiring, too. "(C-store operators) are not going to be able to say, 'I can't hire you, I don't have a TTD (telecommunications devise.)' They might be expected to have one under ADA. In general, creativity will have to be tapped by the business community, which will be expected to be more proactive, instead of reactive, to the situation," says Strayer.

The bill, if passed by the House, will go before the Senate for consideration. Committees yet to deliberate on the measure in the House include the Energy and Commerce, Transportation and Public Works, and Judiciary committees.

Despite Numerous Obstacles Ethanol Popularity Is Rising

Despite contending against pump labeling laws, relaxation of restrictions on methanol and the erosion in some states of blending tax breaks, ethanol continues to thrive as a viable alternative fuel for many petroleum marketers, according to a recent study.

The study revealed that 38% of the Society of Independent Gasoline Marketers of America (SIGMA) members sold ethanol-blended fuel, while 3% sold it exclusively. About 21% of all gasoline sold by its members is blended with 10% ethanol, according to the study.

All told, ethanol-blended fuels account for 6% of total U.S. gasoline consumption, using more than 300-million bushels a year of corn, from which ethanol is derived.

Coinciding with the SIGMA survey, and perhaps a microcosm of ethanol's thrust in the marketplace, was an announcement that Farmers Union Oil Co., of Willmar, Minn., had sold 2-million gals. of ethanol blended fuels, putting it head and shoulders above other ethanol users in the state.

The company, which markets 1-million gal./yr. of gasoline, of which 90% contains an ethanol blend, began selling ethanol in 1985, the same year the state of Minnesota raised its ethanol blend exemption to 4¢/gal. (it has since shaved it to 2¢). The company has registered record sales each month since it began. Farmers Union Oil, part of a 1,900-company co-op, supplies ethanol-blended fuel to city, county, state, school and hospital vehicles in the area.

"I think the future is very bright for ethanol,"says Lynn Dokkebakken, general manager of Farmers Union Oil. "We've got millions of miles of proven use and the endorsement of all major U.S. vehicle manufacturers and the makers of small engines."

The main reason ethanol sales have sustained, if not exceeded, past levels, is the variety of ways in which it can be deployed, says Tom Osborne, communications director of SIGMA.

A case in point, Osborne says, is that with the public's overwhelming acceptance of unleaded midgrade fuels, ethanol when blended with regular unleaded, "is an ideal way to create an 89 octane midgrade, except far superior." SIGMA says despite ethanol's inherent advantages, its future might be dubious. The future of alternate fuels rests on what President George Bush recommends in his Clean Air Act.

Saudi Aramco Ranks As World's Largest Oil Company

Using a new approach to evaluate size and value, *Petroleum Intelligence Weekly* says that Saudi Aramco is the largest oil company in the world. The publication is reputed to be one of the most authoritative and influential in the global petroleum industry.

The new concept gives recognition to oil and gas reserves, production, product sales and refining capacity. This is a broader base than has been used in the past to provide an international perspective on oil companies.

Four of the top 10 are members of the Organization of Petroleum Exporting Countries while three are U.S. companies.

Here's the way the publication listed the top 10 oil companies:

1. Saudi Aramco
2. Royal Dutch/Shell
3. Exxon
4. Petroleos des Venezuela
5. National Iranian Oil Co.
6. Chevron
7. Mobil
8. British Petroleum
9. Texaco
10. Kuwait Petroleum Corp.

On the basis of reserves alone—the prime guideline of the past as to size and respectability—the lineup is considerably different. Here's the way the it listed the top 20 leaders in billions of barrels of oil reserves:

Company	Reserves
1. Saudi Aramco	252.4
2. Iraq National Oil Co.	100.0
3. Kuwait Petroleum Corp.	94.5
4. National Iranian Oil Co.	92.9
5. Abu Dhabi National Oil Co.	65.5
6. Petroleos de Venezuela	58.5
7. Petroleos Mexicanos	53.0
8. Libya National Oil Co.	20.5
9. Nigerian National Petroleum Corp.	11.4
10. Sonatrach (Algeria)	9.2
11. Royal Dutch/Shell	8.8
12. Exxon	7.5
13. British Petroleum	7.4
14. Oil and Natural Gas Commission (India)	5.8
15. Pertamina (Indonesia)	5.4
16. Chevron	3.3
17. Mobil	3.1
18. Arco	3.1
19. Texaco	3.0
20. Petroleo Brasileiro	2.8

The first 10 are state-owned oil companies. Of the second 10, three more are state monopolies, giving this group 13 of the top 20 positions. Based on 1988 production rates, Saudi Aramco's huge reserves were said to be equal to 128 years of supply. By way of comparison, Exxon's reserves were rated at 11 years of supply.

UST Update

EPA Storage Tank Mandate Enforced By Most States

Since the Environmental Protection Agency announced its technical standards and financial responsibility requirements for underground storage tanks back in 1987, most of the state and local activity has centered around adopting the regs as they appeared in the federal register.

Some states, like California, have had regs in place prior to EPA releasing its mandates, which are even tougher than the federal agency regulations. Others adopted even more stringent regulations to meet the volatile needs of their environment. Whatever the case, when finalized the individual state tank regulatory programs will override the federal rules.

- ALASKA: Alaska doesn't have any UST regulations in force and are presently reviewing the EPA regs to see what they will implement. The state has no idea as yet what will be enforced or if it will be more stringent than the finalized EPA regs. Oil pollution statutes and regulations for tanks over 420,000-gal., placarding of tanks, and spill reporting and response have been added to the federal requirements.
- ALABAMA: State regulations are similar to EPA rules. Some of the differences in the state regs are as follows: new tank installations have specific requirements on the construction of vapor monitoring and groundwater monitoring. The state also defines requirements on assessments as a result of a release for example: What should be tested for on a case by case basis--have primary and secondary investigations. Future legislation: working to require certification for installers.
- ARIZONA: Current laws, which became effective in 1986, mimic UST requirements suggested in the Resource Conservation and Recovery Act. New rules are in the process of promulgation and they won't be in effect until mid-1991. Financial responsibility, too, is predicted to be at least as stringent.
- ARKANSAS: Currently using EPA regulations and the state is in the process of drafting legislation. Anticipate using Dept. of Pollution Control and Ecology as enforcing agency.
- CALIFORNIA: California laws have been in place for the past four years. They are more stringent than the EPA's in that they require secondary containment and a permit for tank owners. California laws are less stringent in that they do not require upgrades in 10 years, which the EPA now requires.
- COLORADO: Following EPA regs.
- CONNECTICUT: State regulations have been on the books for four years. There is great concern in Connecticut since 60% of the drinking water comes from groundwater supply. With the exception of a few items, the state regulations are in conformance with the Federal regulations or even stricter, but they do not cover as much. Connecticut tank lining regulations, for example, are more stringent than the federal code and the state does not cover line leak detection. Working to merge EPA and state regulations within the next year.
- DELAWARE: A state regulatory program has been in effect since July 1985. The state expects that its regulations will continue to be as stringent as those of the federal government. Current regulations allow for secondary containment but this is not mandatory at this time. The program also regulates heating oils. Currently researching the economic effect of those regulations on small businesses.
- FLORIDA: Some of Florida's regulations have been in effect since September 1984. To keep the state regulations as consistent as possible with the EPA, the stationary tank rule (Chapter 1761) is being amended to include the EPA standards. In addition, Florida is considering even tougher regulations, such as secondary containment for tanks and piping for some new facilities and/or in areas with high vulnerability to groundwater contamination. Some tank regulations have been revised: The state will require installer/contractor certification. The regulations will go before a commission in March 1990 and some regulations may be made more stringent. The retrofit schedule is based on the age of the tank: for example, all pre-1970 tanks must have been replaced by December 1989, and all 1975-1980 tanks must include monitoring and overfill protection by that date as well.
- GEORGIA: Georgia has written amended regulations, adopting EPA by reference. The hearing was in December 1989 and the new rules will be in effect sometime this year. The state rules will define cleanup levels.
- HAWAII: Currently developing state regulations. The state has no UST regs in place, but are operating under a EPA grant to come up with a state plan. One state expert says Hawaii's valuable, fresh water table may play a role in future decisions (the possibility of secondary containment).
- IDAHO: Following EPA regulations.
- ILLINOIS: The state is following EPA regs. In Illinois, the Fire Marshal must be notified when a tank is being removed or replaced, and it requires that tank removers/installers must be registered. New rules regulate heating oil tanks over 1,100-gal., regulate emergency generator tanks, and requires removal of tanks over abandonment unless removal causes damage to other tanks, structural damage or damage to roadways. And there is also a law which mandates tank installation certification.
- INDIANA: Currently follow EPA regs.
- IOWA: EPA and Iowa regulations are the same except that the federal regs date closure and spills by 1998. In Iowa marketers must date closure and spills by 1991.
- KANSAS: Legislation has been drafted to adopt the EPA's regulations by reference. Some regulations will be added, for example, heating fuel tanks for non-single family dwellings.
- KENTUCKY: Adopted EPA regulations.
- LOUISIANA: Presently, no state UST tank regulations. Legislation has been proposed that generally copies EPA's rules.
- MAINE: The state follows the federal mandates, however, underground tank installers must be licensed.
- MARYLAND: The state has regs in place, but are currently drafting legislation to update these requirements. The state anticipates adopting most of EPA's regs.
- MASSACHUSETTS: State regulations are pretty much in line with EPA but some areas are stricter, such as: the state has mandated double-wall tanks and secondary containment for piping. The state has a 10-gal. reportable cleanup. Regulates heating oil tanks. Proposed regulations include upgrading and replacing waste oil tanks and requiring stricter regs on tanks in public water supply areas.
- MICHIGAN: State regs basically mirror the EPA. Michigan already has some state regs in place and these requirements would be incorporated into the federal mandates. One of the most notable differences is that

Michigan requires all unused tanks be removed from the ground, while the EPA says the tanks can be filled and left in place. Also, the Fire Marshal is enforcement agency in the state and therefore can institute stricter requirements down the road. Nothing has been indicated so far.

- MINNESOTA: The state regs have been modified to include the regulation of heating oil above 1,100-gal. or more and notification is required for state inventory of tanks. Also, owners and operators report change and give a 30-day notice for removal. Since January, the state has been offering training and/or certification for anyone who installs, repairs or removes tanks, and the certification probably will be required after June 1990.
- MISSISSIPPI: The EPA regulations have been adopted by reference. The enforcement body in the state is the Mississippi Dept. of Natural Resources.
- MISSOURI: Missouri has no state UST regs at this point, but expects to pass legislation sometime in early spring. These regulations are expected to mimic EPA regs with few differences.
- MONTANA: The state's regulations became effective 11/23/89 and they are similar to EPA regs except they include farm tanks. Montana's regulations cover small farm and heating oil tanks as well as piping.
- NEBRASKA: The state program is almost identical to EPA's except that they include small tanks and heating oil tanks. The program regulates all phases of installation and some phases of removal. It certifies installers and removers.
- NEVADA: Following EPA regs.
- NEW HAMPSHIRE: The proposed state regulations, which should be in effect this spring, are more stringent than those of the EPA in that they require double-wall tanks and also govern home heating oil tanks.
- NEW JERSEY: State regs are more stringent than federal regulations, especially where there are storage tanks above sole-source aquifers. The new legislation will require daily or continuous monitoring, spill/overfill protection, will advance some federal regs dates, such as the retrofit date will be September 1991.
- NEW MEXICO: Phase I of state regulations has been effective since April 1988; these include tank registration at $28 per tank, per year; notification of a spill greater than 25-gal.; notification of major modifications or construction. Phase II, effective fall 1988, addresses technical regulations; owner is accountable instead of owner/operator as in federal regulations. The program has a stricter time table for updating and upgrading tanks, and it is more sensitive to groundwater than the EPA because 90% of the people in New Mexico drink groundwater.
- NEW YORK: New York has had regulations that are more stringent than the Federal EPA regulations since 1986. Examples include: for bulk storage tanks there are registration, installation, testing, removal and closure specifications. Other areas include: secondary containment on tanks and piping, split tanks (petroleum/chemical) and stronger standards for new construction. The state is working on regulations for storage and handling.
- NORTH CAROLINA: North Carolina has a law which says "the state cannot adopt more stringent environmental regs than the Federal government," so it is staying with EPA minimums. This does not bar local governments (cities, towns and counties) from adopting more stringent laws than the federal code. Examples: Fuquay has adopted a "double-wall" containment ordinance for new fuel tank installations that virtually prohibits such installations; A Guilford County ordinance says abandoned fuel oil tanks must be removed or filled with inert materials; or, if still usable, the tanks must be emptied, fuel lines must be plugged and vents left open. Proposed legislation differs slightly from federal regs.
- NORTH DAKOTA: Adopted regulations that are almost the same as the EPA. The only difference is that a 30-day written notice for tank removal must be signed by the owner.
- OHIO: Following federal regulations, but in the process of writing state regs.
- OKLAHOMA: Their state regs are basically the same as the EPA, however, they also regulate ethane base antifreeze tanks which became effective April 13, 1989.
- OREGON: Following EPA regs.
- PENNSYLVANIA: The state regulates both aboveground and USTs. The state requires tank registration, certification of installers and inspectors, yearly inspection, with the Dept. of Natural Resources conducting follow-up investigation.
- RHODE ISLAND: State regulations have been in place since 1984 and are as stringent as EPA's. There are some exceptions; for example, the state's tank testing program, started in 1986, is considered to be tougher than the government's. Currently reviewing the EPA regs to decide in which areas Rhode Island needs to be stricter.
- SOUTH CAROLINA: State regulations have been on the books since January 1986 with the initial set more stringent than those of the EPA. The state requires daily inventory and weekly reconciliation. Also, administers permits to tank installers.
- SOUTH DAKOTA: In November 1987 the state adopted regulations which basically followed those proposed by the EPA, but included both USTs and aboveground tanks and the compliance dates vary. The state also adopted the financial responsibility requirements set by the EPA.
- TENNESSEE: Regs mirror EPA.
- TEXAS: Among the state regulations are a 30-day prior notice for installation and abandonment, strenuous registration requirements and spill/overfill protection is required by 1994 not 1998 as mandated by EPA. State regs require cathodic protection on all tanks; however, tanks over 10 years old don't require internal inspection before applying cathodic protection. Swing joints are not allowed; and the program does not defer on airport hydrant systems or emergency generator release detection requirement. It does partially regulate hydraulic lifts.
- UTAH: The state has no UST regulations, but has adopted EPA's technical rules by reference. A tank certification program covers testers, handlers and installers for competency. The program includes specific rules for tank closures and tank disposal.
- VERMONT: The state regulations are generally more stringent than EPA's requirements. Some of the differences between the two rules include: testing program for existing tanks, the secondary containment requirements and new construction. Currently working at incorporating EPA regs with the state regs, but "that won't really change things."
- VIRGINIA: The regs are generally the same as the EPA rules, with the exception of regulating heating oil tanks at 5,000-gal.
- WASHINGTON: Currently the state follows the federal regs. The state has the legislation to implement a state program, which should be in effect July 1990. This legislation is consistent with the EPA's mandates, however, it may differ in environmentally sensitive areas.
- WEST VIRGINIA: Planning to adopt the federal regs. The state will require written 30-day notification for tank installation.
- WISCONSIN: The state has two departments that handle federal UST regulations. The Dept. of Industry, Labor and Human Relations participates in petroleum inspections for USTs. The Dept. of Natural Resources handles cleanup under the state's spill law. The state is currently following regulations which are similar to the EPA's. In early 1990 the state will implement regs more stringent than the federal mandates, i.e. will not allow abandonment in place.
- WYOMING: Follows EPA regs.

Here's How State Tank

Over the past few months several states adopted trust funds for cleaning up an underground storage tank leak. To date only Georgia, Ohio, Louisiana, Vermont, Wisconsin, Illinois and Alabama state trust funds have been approved by the Environmental Protection Agency, and as of late December only Minnesota, Mississippi, Montana, North Dakota and Oklahoma have submitted their plans for approval. Several other states hope to submit cleanup funds early this year.

Although many states adopted storage tank cleanup funds prior to the EPA releasing its technical standards and financial responsibility requirements for tank owners and operators, most of these have been revised to meet the federal government mandates.

While some states continue to work out the kinks in their trust funds, others have yet to even draft any legislation.

As noted in the article on page 44, a

State	EPA Approved	Funding Mechanism	Effective Date	Mandatory Participation	Fund Balance	Funding Reactivated	Funding Cap
Alabama	Yes	$10-$150 tank fee	10/1/88	Yes	$2.4 M	$7.5 M	$10 M
Alaska	No	5c/bbl. oil	1986	Yes	$20 M	$50 M	None
Arizona	P*	1c/gal. tank fee	8/1/90	Yes	$36 M	$36 M	
Arkansas	No	0.2c/gal motor fuels + tank fee	7/1/89	Yes	$600,000	$6 M	$10 M
California	No	$200 annual tank fee	10/2/89	Yes	0	N/A	N/A
Colorado	No	$30 annual tank fee + $25-$30 tanker surcharge	7/1/89	No	$1.5 M	$1.5 M (See comments)	$4 M
Connecticut	P	3% of gross earnings from quarterly sales of petroleum products	1989	Yes		$5 M	$15 M
Delaware	P	$1 M appropriation from state revenue	1/16/87	No	0		
Florida	P	$50 tank fee + $25 annual renewal + 10c/bbl. import tax on petroleum products	7/1/86	No	$59 M unencumbered $2 M unobligated	$5 M (See comments)	$50 M (See comments)
Georgia	P	0.1c/gal. on petroleum products stored	7/1/88	No	$5.4 M	$10 M	$20 M
Hawaii							
Idaho							
Illinois	Yes	0.66c bulk delivery fee	7/28/89	Yes	$8 M est. $2 M/mo. accrument	Constant	None
Indiana				Yes			
Iowa	P	0.7c/gal. environmental protection charge, $65 tank fee	5/89	Yes	$4 M	See state regs	$12 M
Kansas	No	1c/gal. motor fuels	4/90	No	0	$2 M	$5 M
Kentucky							
Louisiana	Yes	$100 annual tank fee	7/15/88	Yes	$1.9 M	$2 M	$6 M
Maine	P	1.5c/bbl. crude oil tax + 1c/bbl. gasoline tax + 0.5c/bbl. refined oil products tax	(See comments)	N/A	$4.8 M Total for all 3 funds	All funds are non-lapsing.	$60 Surface Oil Fund None Hazardous Waste, Groundwater Funds
Maryland							
Massachusetts							
Michigan	No	0.87c/gal. refined petroleum fee	7/18/89	Yes		N/A	None

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*P: Pending

Cleanup Funds Fare

variety of insurance companies will dovetail their policies around state trust funds to help ease the financial burden tank owners and operators are being faced with.

The state cleanup funds do not, in many cases, cover the entire costs for cleaning up a release; rather, they provide financial assistance to marketers. The funds help marketers meet EPA regs which require owners of underground tanks to be financially able to remedy any leaks and compensate third parties for property damage caused by accidental releases from the USTs. However, there are some state trust funds which are very comprehensive and do cover all the necessary EPA mandates.

Most of the funds compensate for on-site spills (damages to property owned by the insured) and off-site releases (property off the initial leak site). However, many of the tank funds do not compensate for third party bodily injury.

The following is a brief rundown of what's happening in each state.

Cleanup	Third Party	Deductible	Retroactive	Work w/ Insurance	Comments
$1 M	$1 M	$5000	10/1/88	Yes	Fund is recognized as providing financial responsibility for owners.
(See comments)	(See comments)	None		Yes	Similar to Superfund. Cleanup and 3rd party is based on each individual case with the intention of cost recovery.
$150,000/ occurrence	No	$10,000 first 2 yrs. then $25,000	9/15/89	Yes	This is proposed legislation to be effective 8/90.
$1 M	$500,000	Currently $50,000 Proposed $25,000	7/1/89	Yes	In the process of amending Petroleum Storage Tank Trust Fund.
$1 M/ occurrence	No	$50,000	1/1/88	Yes	This is a reimbursement fund, not an insurance program, effective until 1/1/98. Currently being reviewed.
$1 M	$1 M	$10,000 cleanup $25,000 3rd party	(See comments)	No/Yes (See comments)	If fund drops below $1.5 M, the surcharge will double. The Governor has appointed a committee to decide retroactive policies. Legislation pending.
$1 M	$1 M	$10,000	No	(See comments)	Need to meet qualifications before allowed to participate in the fund.
$1 M	$1 M	$2500	N/A		
$1 M $2 M aggregate	$1 M $2 M aggregate	$500/incident not to exceed $25,000	(See comments)	Yes	The fund is retroactive if reported before 12/31/88 and costs are incurred after 1/1/85. If the fund falls below $5 M, the tax is increased to 20¢ until the balance exceeds $15 M then the tax is reduced to 10¢. If the fund exceeds $50 M, the tax is discontinued until the balance falls below $35 M then the 10¢ tax is reinstated.
$1 M/ occurrence (See comments)	$1 M/ occurrence	$10,000/ occurrence	7/1/88	No	Currently amending state regulations. Annual aggregate is currently $1 M for 1-13 tanks; $2 M for 13 or more tanks.
					Administering Federal LUST fund only. Legislation to work up financial guarantees. Legislation is pending.
$1 M	$1 M	$10,000	No (See comments)	No (See comments)	Must provide insurance statement to verify and claim is filed with insurer first, if available. The fund is retroactive prior to 7/28/89, but there is a higher deductible ($50,000-$100,000).
$1 M	No	$100,000 $5000 or 25% of cost	7/1/87 Conditional	Yes	
$1 M/occurrence $1 M aggregate<100 tanks $2 M aggregate>100 tanks	No	(See comments)	No	For 3rd party	Deductible: $5000<4 tanks; $10,000<12 tanks; $20,000<13 tanks; $60,000<99 tanks.
					Proposed in 1990 legislature.
$1 M	$1 M	$15,000	No	Yes	
No	Yes. Compensation is sought.	No	No	Yes	Funds are not insurance programs; spiller is responsible to repay monies spent from funds. Insurance program will be debated in 1990 legislature. Effective dates for the funds are: 1969 Surface Oil Fund, 1981 Hazardous Waste Fund and 1985 Groundwater Fund.
					No fund.
					No fund. Have state superfund loosely modeled after CERCLA.
$1 M	$1 M	$10,000	7/18/89	(See comments)	Fund will expire in 5½ years. Owners and operators must show proof of financial responsibility for deductible.

UST Update

State	EPA Approved	Funding Mechanism	Effective Date	Mandatory Participation	Fund Balance	Funding Reactivated	Funding Cap
Minnesota	P	$10/1000-gal. petroleum products 1¢/gal. for 30 days (See comments)	6/87	Yes	$2.7 M	$1 M	30-day fee activated
Mississippi	No	0.2¢/gal. motor fuel tax + $40 tank fee	5/18/88	Yes	$6 M	$4 M	$6 M
Missouri	P	$100 tank fee	8/28/89	No	0	$3 M	$6 M
Montana	P	1¢/gal. gasoline to 0.75¢/gal. gasoline after 6/30/91	10/1/89	No	$2 M	$4 M	$8 M
Nebraska	No	$25 tank fee + 0.3¢/gal. gasoline tax + 0.1¢/gal. diesel tax	5/27/89	Yes	$1.3 M	$3 M	$5 M
Nevada	No	0.6¢ petroleum product fee + tank fee	10/1/89	Yes		$5 M	$7.5 M
New Hampshire	P	0.6¢ fee on oil transfers/ transported into state.	7/88	Yes	$3 M approx.	$2.5 M approx.	$10 M
New Jersey							
New Mexico	No	0.2¢/gal. tax on gasoline and special fuel entering state	7/1/88	Yes	$2.3 M	$2 M	$10 M
New York		4¢/bbl. >400,000-gal.	4/1/78	Yes	$5.7 M		$18 M-$25 M
North Carolina	P	0.125¢ kerosine tax/motor fuel tax + $45 tank fee < 3500-gal.; $70 tank fee >3500-gal.	6/30/88	Yes	$2.3 M	$5 M	$15 M
North Dakota	P	0.225¢/gal. tax + $25 annual tank fee	7/1/89	Yes/No (See comments)	$300,000-$400,000	$1 M	$3 M
Ohio	Yes	$150 annual tank fee	7/11/89	Yes			
Oklahoma	P	1¢/gal. fee on gasoline, diesel, blending fuels	7/1/89	Yes	0	$5 M	Fee reactivated for 90 days.
Oregon							
Pennsylvania							
Rhode Island							
South Carolina	No	$100 annual tank fee	5/88	Yes	$1.2 M	N/A	$1 M
South Dakota	P	1¢/gal. fee on gasoline/ distillates sold	4/1/88	Yes	$5.1 M	$2 M	$5 M
Tennessee	P	$100 annual tank fee	7/1/88 (See comments)	Yes	$3.2 M	$2 M	$5 M
Texas	P	Variable fee on bulk deliveries. (See comments)	9/1/89	Yes	0	$50 M 8/31/91 $25 M 9/1/91	$125 M 8/31/91 $100 M 9/1/91
Utah	P	$250 annual tank fee	7/1/90	Yes	0	$12.5 M	$17.5 M
Vermont	Yes	1¢/gal. motor fuel tax + $100-$200 annual tank fee. (See comments)	1/1/87	Yes		N/A	N/A
Virginia	No	0.2¢/gal. motor fuel tax	7/88	Yes	$3.5 M	$10 M	$20 M
Washington	No	0.7¢ of 1% × wholesale value of hazardous wastes & petroleum tax on wholesale/imports into state	3/1/89	Yes	$1.5 M	N/A	None
West Virginia							
Wisconsin	Yes	11.4¢/bbl. petroleum inspection fee	8/1/87	No	$9 M	$3 M	$10 M
Wyoming	No	$200 annual tank fee + 1¢/gal. tax $150 annual tank fee for self-insured owners	7/1/89	Yes			$10 M

Cleanup	Third Party	Deductible	Retroactive	Work w/ Insurance	Comments
$250,000	$250,000	No	6/4/87	(See comments)	Petroboard has ruled that tank owners cannot be doubly reimbursed from both insurance and the fund. Will reinstitute 30-day collection mechanism anytime the fund dips below $1 M.
$1 M	$1 M	$300,000 3rd party $100,000 Cleanup	Up to 5/18/88	No	
$1 M/incident	$1 M/incident Property damage only	Sliding scale (See comments)	No	Yes	Deductible: 100% of first $25,000; 50% of 2d $25,000; 25% between $50,000-$100,000.
$1 M/incident aggregate	$1 M/incident aggregate	50% of $35,000 spent	4/13/89	Yes	In the process of promulgating rules to guide the board on reimbursement procedures.
$975,000/ occurrence	No	(See comments)	Spills 7/17/86 Costs 5/27/89	(See comments)	Deductible: $10,000 + 25% of the cost shared by O/O up to an additional $15,000. Total % share is not to exceed $25,000. Insurance companies are researching policies incorporating the fund.
$1 M/incident	$1 M	Regulated $25,000 Residential $1000	No	No	
$1 M aggregate	$1 M aggregate	$5000 single facility $20,000 2-19 facilities $30,000 30> facilities	7/88	(See comments)	Regulations are pending. In the process of developing a section for oil discharge and disposal cleanup fund.
					No legislation. No insurance. Following Federal LUST Fund regulations.
(See comments)	No	No	Yes, if there is a state interest.	No	Fund pays first $25,000 per incident plus 50% between $200,000 and $1 M.
Yes	Yes	No	4/1/78	Yes	Fund does not serve as financial responsibility.
$1 M aggregate	$1 M aggregate	$50,000 cleanup $100,000/tank/ occurrence 3rd party	Yes	Yes	
$100,000	No	$7500	No	Yes	Mandatory participation for petroleum dealers, who is anyone licensed by tax commissioner to sell motor fuel.
		$50,000 $10,000 6 tanks<		Yes	The Governor has not named the Board as of yet. They need to meet and establish the final rules.
$500,000-$1 M	(See comments)	$10,000	No	No	The tank owner must obtain a contractor who will provide a corrective action plan to the owner and the OCC. The plan will be reviewed as to its capability of remediation and that it incorporates reasonable expenses.
					No fund.
					UST insurance fund details are being ironed out.
					No fund.
Damage only	Damage only	$100,000	Grace period 1/88 to 12/89	See state regulations.	Plan to amend act in 1990 legislature to decrease deductible and change funding mechanism.
$100,000	No	$10,000 cleanup	4/1/88	Pays second to insurance.	1990 legislation to increase coverage to $1 M. Financing is available through state's PECA Program and SBA's 7A Loan Program.
$1 M	$1 M	$50,000 cleanup $150,000 3rd party	No	Yes	Must pay fees before eligibility.
$1 M/ occurrence	No	$10,000/ occurrence	5/31/89	Yes	$12.50/yr. for 2500-gal.<; $50/yr. for 8000-9999-gal. For 10,000 gal.> $25 fee for each 5000-gal. increment.
$975,000	$300,000	$25,000	No	Yes	Owners and operators required to pass state tank tightness/soil tests before receiving coverage.
$1 M uninsured costs	$1 M uninsured costs	$10,000/leak cleanup	1/1/87		Funding until 7/1/94; can file claims until 7/1/96. Tank fee depends on facility and gallonage sold.
$1 M Proposed	$1 M Proposed	$50,000/leak cleanup $150,000/leak 3rd party	No	Yes	Regulation in process and plans to be adopted by 3/90. Proposed effective date is 5/90.
	No	None		Yes	Similar to LUST fund. Commission has been formed to address to financial responsibility reinsurance.
					Insurance fund is currently being drafted. There is a LUST fund but it cannot be used to demonstrate financial responsibility.
$195,000/site	$195,000/site	$5000 $10,000 7/1/93	8/1/87	Yes	Cleanup and 3rd party: $50,000/leak 100-999 tanks; $5000/leak all others up to $950,000/occurence.
$5000-$50,000	$1 M / C/A	(See comments)		Proposed	Deductible: $5000>6 tanks; $15,000>15 tanks; $50,000<15 tanks. Currently legislation is pending to revise the existing 3 trust funds.

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March 1990
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How Jobbers Are Handling Leak Detection
Oil Companies Rethink Auto Service, TBA
Fuel Price Hikes Ignite Protests

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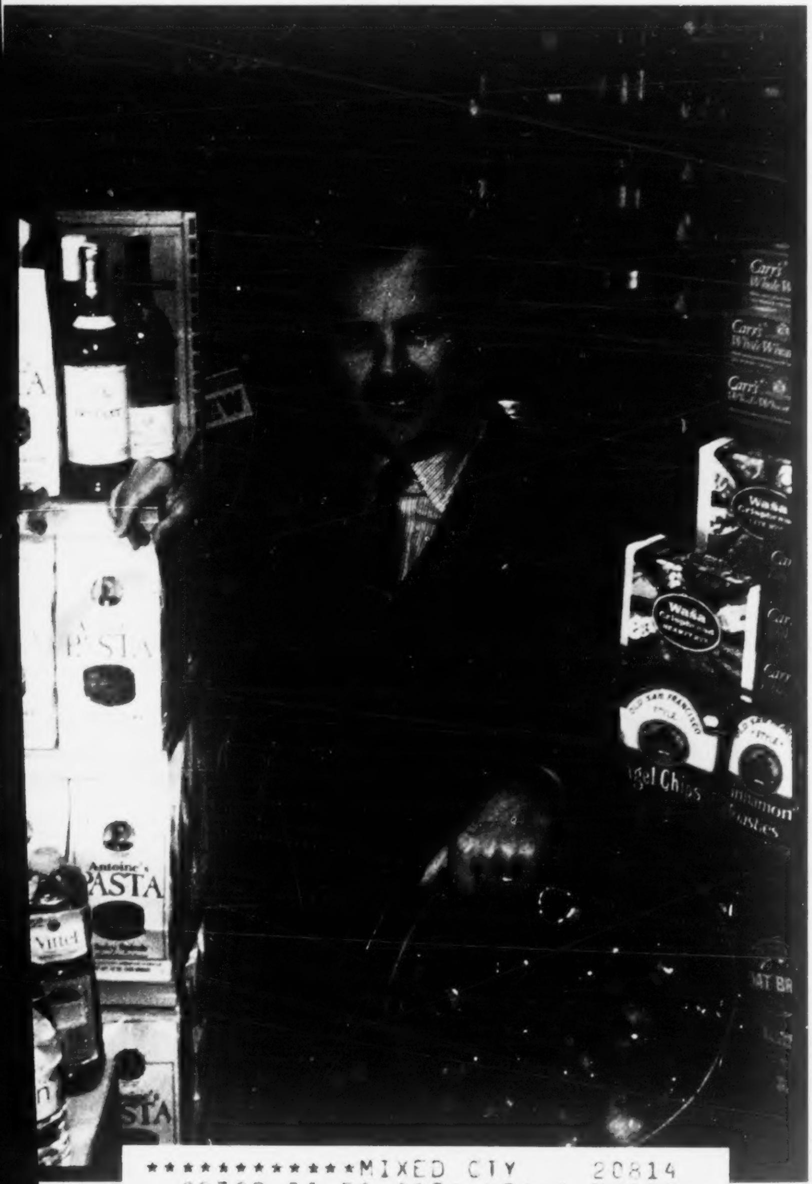

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NCS Develops New Strategies To Revitalize Image, Sales

Also:
UST Update, Continued...

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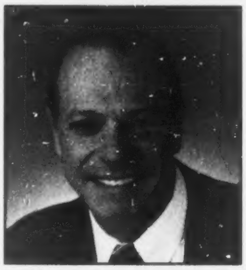

Editor's Viewpoint

The drop in diesel and heating oil prices didn't dampen the Congressional investigation of the spike in those prices several months ago. The Congressmen understand market forces can drive prices down, but rising prices must mean the oil industry—oil companies, jobbers and dealers—is up to no good. Why is that? What if we put one of these Congressmen under a "truth ray" and made him answer questions with total honesty?

Reporter: *What's the purpose of investigating fuel price increases?*

Congressman: Smoke and mirrors, my boy. Misdirection. Keeps attention off real energy issues that we haven't got the guts or brains to tackle. Makes me look like I care about my constituents, too. They get all riled up, so I get riled up with 'em and start investigatin'. They need a scapegoat and who's better than the oil industry. Public never liked it anyway. Works out real nice.

Reporter: *What about price fixing and gouging consumers?*

Congressman: Nah. Look, I been on the Hill five terms and run through this energy price thing a dozen times. Sure, there's a little chicanery here and there. But by and large, it's legit. You can't rig a game this big, with so many different players. No, it's the market, boy. Prices go up; they go down. It's the free market. Capitalism. Mom and apple pie.

Reporter: *Why not tell the people that?*

Congressman: You crazy, boy? Inform the public? Educated voters ask tough questions I don't want to answer. No siree. Think of voters as mushrooms: they grow best if you keep 'em in the dark and feed 'em a lot of manure.

Reporter: *But is that good for them? Good for the country?*

Congressman: No, but it's good for me. Remember, son: Given a choice of what's good for the people and what's good for me, I take care of me.

Reporter: *But the real problems won't go away. For instance, API reports U.S. production continues to decline, imports supply about 46% of our needs and could exceed 50% in the '90s. We're where we were in the '70s. What if there's a disruption, shortages and long gasoline lines and high prices?*

Congressman: I'm a Congressman, son. There'll always be gasoline for me. And I won't have to wait in no lines, either—unless it's good publicity.

Reporter: *What about the average guy who doesn't have that power?*

Congressman: We'll think of something. Maybe we'd slap on price and allocation controls.

Reporter: *Controls don't work. They make things worse. We found that out a long time ago. The public will be outraged and want to know what happened.*

Congressman: No problem. We'll just blame the big bad oil industry and start another investigation. See how easy it is? *—Frank M. Victoria*

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Giant Texas C-store/gasoline marketer National Convenience Stores has undertaken a stem to stern overhaul of its marketing strategies—with impressive results.

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Serve
The Certified Repair Center

For a number of reasons, oil companies are taking a second look at their TBA and automotive service capabilities. And some are taking positive steps to "put service back into stations."

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This month, *NPN* wraps up its special series of update reports on underground storage tanks. Included are features on how marketers are handling leak detection rules and how to select leak detection systems.

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Environmental Costs Hurt 1989 Profits

The high cost of environmental problems and related activities showed up in some 1989 earnings reports as oil companies began to call special attention to factors that are going to have an increasingly serious impact on future industry profits.

Exxon, for example, said it had taken another $500-million charge in the fourth quarter to keep up with some of the environmental costs of the Valdez/Alaska disaster. Exxon said Valdez had cost about $1.4-billion.

Chevron and Phillips said that as a result of the latest snafu in plans to put their Point Arguello, Calif., discovery on stream, they were writing off $825-million between them. The field was all set to go but California authorities unexpectedly refused to allow them to bring the crude oil ashore by boat.

Chevron said that had it not been forced to set aside $1.2-billion in 1989 for special charges, it would have had normal profits of about $1.5-billion for the year. Instead it reported only $251-million in earnings, the lowest total in years. Chevron was knocked out of the so-called "billionaires club," whose membership is restricted to those companies netting $1-billion a year in profits. Texaco also had big write-downs for environmental affairs in 1989.

One Wall Street analyst was quoted as saying that oil companies are going to see more of the same for such things as desulfurizing diesel fuel, cleaning up leaks at gasoline stations and storage facilities and making heavy investments to head off future troubles. The costs, he said, could pinch the majors and possibly drive smaller companies out of business.

There were some big winners in 1989, however. Among them were Shell, up 13%; Texaco, plus 85%; Arco, 23%; Marathon, 70%; Sun, 1300%; Amerada Hess, 283%; Kerr-McGee, 42%; Murphy, 20%, and Conoco, 38%.

UPSTREAM

(millions of dollars)

Company	4Q '89	4Q '88	% Chng.	FY '89	FY '88	% Chng.
Exxon	$758.0	$1,380.0	(43.1)	$3,810.0	$5,260.0	(27.6)
Mobil	447.0	462.0	(3.2)	1,809.0	2,087.0	(13.3)
Chevron	(883.0)	175.0	--	251.0	1,768.0	(85.8)
Amoco	319.0	375.0	(14.9)	1,610.0	2,063.0	(22.0)
Shell	264.0	212.0	24.5	1,405.0	1,239.0	13.4
Texaco	287.0	296.0	(3.0)	2,413.0	1,304.0	85.0
BP-America	NA	NA	NA	NA	NA	NA
Arco	403.0	391.0	3.1	1,953.0	1,583.0	23.4
Phillips	(225.0)	135.0	--	(219.0)	650.0	--
Conoco	108.0	71.0	52.1	538.0	391.0	37.6
Unocal	(26.0)	141.0	--	260.0	480.0	(45.8)
Marathon *	166.0	123.0	35.0	862.0	506.0	70.1
Sun	(173.0)	76.0	--	98.0	7.0	1,300.0
Coastal	NA	NA	NA	NA	NA	NA
Amerada Hess	70.8	66.3	6.8	476.3	124.3	283.2
Pennzoil	(60.0)	36.1	--	146.0	1,475.4	(90.1)
Ashland **	22.0	95.9	(77.1)	--	--	--
Kerr-McGee	37.2	33.4	11.4	156.0	110.0	41.8
Amer. Petrofina	13.5	32.9	(59.0)	119.0	132.9	(10.4)
Murphy	21.0	25.7	(18.3)	46.6	38.8	[illegible]
Citgo	NA	NA	NA	NA	NA	NA
Dia. Shamrock	(23.8)	27.4	--	28.1	53.5	[illegible]
DOWNSTREAM						
Exxon (total)	341	563	(39)	1,099	1,812	[illegible]
Domestic	114	258	(56)	370	672	[illegible]
Foreign	227	305	(26)	729	1,140	(68)
Mobil (total)	123	305	(60)	731	1,006	(27)
Domestic	72	220	(67)	347	553	(37)
Foreign	51	85	(40)	384	453	(15)
Chevron (total)	(271)	57	--	134	622	(79)
Domestic	(322)	160	--	(82)	571	--
Foreign	51	(103)	--	216	51	324
Texaco total)	(42)	412	--	471	1,134	(59)
Domestic	(111)	248	--	78	663	(88)
Foreign	69	164	(57.9)	393	471	(17)
Amoco (worldwide)	187	266	(28)	648	897	(28)
Shell	10	124	(93)	361	519	(27)
BP America	NA	NA	NA	NA	NA	NA
Arco	64	88	(27)	291	368	(21)
Phillips	15	112	(87)	176	312	(43)
Conoco	62	104	(40)	303	331	(9)
Marathon *	58	156	(63)	405	488	(17)
Sun	7	73	(66)	212	277	(65)

* Operating profits after taxes; ** 1st. qtr. '90, fiscal ends 9/30.

• TRENDS

Jobbers Under Pressure To Use POS Systems

Operating costs and image standards are two reasons more suppliers are telling their jobbers to get into electronic point-of-sale (POS) or get out of the fold. Some companies have made POS mandatory on new branded contracts and other companies are sweetening automation packages to encourage more jobber participation.

Texaco told its jobbers last year that POS is compulsory. Some contracts expire at the end of June and jobbers will be forced to take on POS or debrand, officials say, adding that modernization and Texaco's emphasis on image are reasons.

Diamond Shamrock decided to mandate POS at its jobber locations in late 1988 and completed the change in the first quarter of 1989—roughly 650 company-ops and 1,300 jobber locations. "We don't feel we've asked jobbers to do anything detrimental to their business," says Ken Floyd, vice president of wholesale marketing for Diamond Shamrock. Floyd adds that for the most part jobber acceptance has been positive. "I visited four large jobberships in Texas recently and jokingly asked what they would do if their POS equipment were taken away and they said they'd kill."

The general POS package majors have been assembling usually range from relatively inexpensive card-swipe devices to complicated, high-end electronic cash register, pump control and data processing devices. Jobbers usually lease the package for a monthly fee (generally $50 to $100) or buy the equipment ($550 to $8,000 per site). In either case, transaction fees may also be involved. In Diamond Shamrock's case, rural areas can cost 14¢/transaction, denser areas 10-10.5¢/transaction and metropolitan areas 9¢/transaction.

Majors mandating POS generally tout the pluses jobbers receive from automation. Among these are the elimination of chargebacks, the easing of customer relations, because blame for a "no sale" or credit rejection can often be put on some distant computer, and quicker account credit for jobbers on credit card purchases.

For the majors, it's a matter of dollars and cents. Those companies, like Phillips, that operate their own credit card centers find it costly to handle paper. Electronic transactions are cheaper. Other major oil company executives say image is an important factor. "The customer isn't given very much credit when the oil company moves to POS, but (the customers) are the ones who are really driving the push." One marketing vice president says customers expect the quick, automated credit card transaction. Sales records are printed legibly and transactions take mere seconds.

Companies like Mobil and Conoco are continuing to offer programs on a voluntary basis, but stress the benefits of joining the system. Conoco reportedly switched fee structures, charging a $55 flat fee versus a per transaction fee. The move reportedly saves a jobber money.

Overall, jobber reaction appears to be passive. While oil companies admit a small percentage of jobbers are complaining about the high costs of hardware and other POS-related expenses, most appear to accept the moves. Officials with the Petroleum Marketers Assn. of America (PMAA) say too that they have received few complaints over recent POS requirements from its membership.

Tom West with the National Assn. of Texaco Wholesalers confirms a general acceptance of Texaco's POS mandates among jobbers, saying that many NATW members were eager to get the automation package. West says there was more complaining over the moves to POS three or four years ago, when the thought of handing over electronic access to bank accounts was a fear many jobbers harbored.

The problem today, according to West, is with jobbers who have spent quite a bit of money installing their own equipment. Since the equipment doesn't match up with Texaco specs, software programs will have to be written to make the equipment compatible. But West believes Texaco officials will accept that task.

—by Angel Abcede

• MARKETPLACE AT A GLANCE

AVERAGE GASOLINE PRICES IN THE U.S. (per gal.)

December	Gasoline (All types)	Leaded Regular	Unleaded Regular	Unleaded Premium
U.S. City Avg.	$1.030	$0.961	$0.980	$1.170
Regions				
Northeast	1.087	1.048	1.009	1.229
North Central	1.020	0.977	0.986	1.175
South	1.021	0.995	0.963	1.129
West	1.001	0.933	0.970	1.176

Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

STOCKS (Add 000 bbl.)

	2/2/90	2/3/89
Gasoline (Total)	231,425	243,877
Gasoline (Unleaded)*	174,107	161,272
Jet Kerosine	37,219	37,911
Distillates	121,005	117,360
Residual	50,116	45,573

**Included in gasoline total.*

Source: American Petroleum Institute.

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How Environmental Issues Threaten Industry

Why Unleaded Age Offers Opportunity, Risk

Can Government Investigate Price Hikes?

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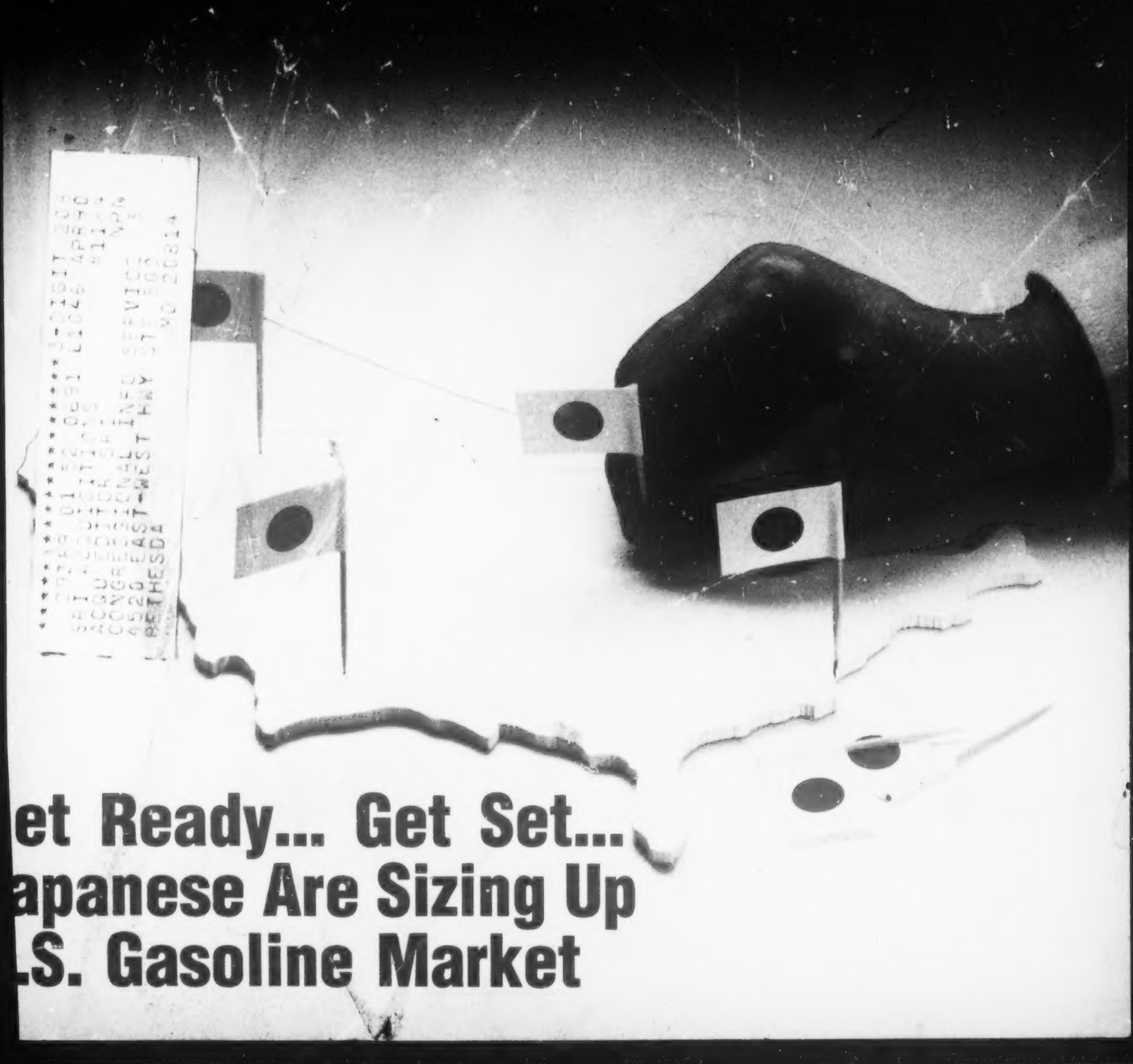

et Ready... Get Set... apanese Are Sizing Up .S. Gasoline Market

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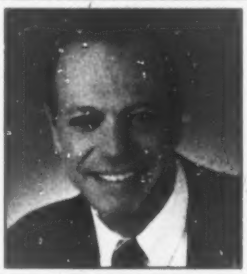

Editor's Viewpoint

No one outside of a rubber room wants "dirty" air. Moreover, most people know there's a price for a safe environment and are willing to pay. What we expect, though, is the most effective, least costly means to achieve that end. But we have a queasy feeling that government is doing just the opposite because it's in a frenzied panic to appease environmental extremists.

These days, for instance, there's a big push for oxygenated fuels to cut auto emissions. This "solution" will cost billions—and a far less costly and less disruptive method may be available. What is this remarkable alternative? It's called a tune-up, something the auto industry has extolled for years as a means of controlling emissions. Donald H. Stedman, a chemistry professor at the University of Denver, says studies at that institution show the same EPA database used to justify oxygenated fuels also indicates that tuning up the relatively small number of high-polluting cars would be twice as effective in controlling carbon monoxide emissions as using oxygenated fuels.

Stedman's conclusions appeared in an editorial piece in the *Wall Street Journal* and I called him for details. There's too much to cover in this space, but here are some key points he made in our conversation and in his article.

* Half the carbon monoxide emitted comes from about 10% of vehicles tested. What's interesting is that half the improvement in per mile carbon monoxide emissions attributed to using oxygenated fuels comes from the same 10% of the fleet. Stedman says—based on studies on the effectiveness of tune-ups—that if those same few "dirty" cars had their emissions systems tuned to equal the average of the rest of the fleet, total emissions would be cut almost twice as much as by using oxygenated fuels for the entire fleet.

* Stedman says the University has developed a remote sensing device which can identify dirty vehicles very cheaply. He estimates that a program based on remote sensing and tune-ups of high-polluting vehicles would cost about $40 per ton of eliminated carbon monoxide. An EPA sponsored study estimates the cost of mandated oxygenated fuel programs to be $500 per ton. Annual exhaust pipe inspection and maintenance programs come in at $780 per ton.

Stedman also says there is no evidence oxygenated fuels have any long term effect on clean air. He points out air quality improved in Brazil for about two years after an extensive oxy fuel program went into effect—but in the past 2-1/2 years has gotten worse. He also told me there is no evidence California's much-touted clear air program has improved air quality (though there's no way to know how bad the air would have been without the program).

Will we get our money's worth from the oxy fuel plan or will it rank with the Pentagon's $100 hammers and $500 toilet seats. —*Frank M. Victoria*

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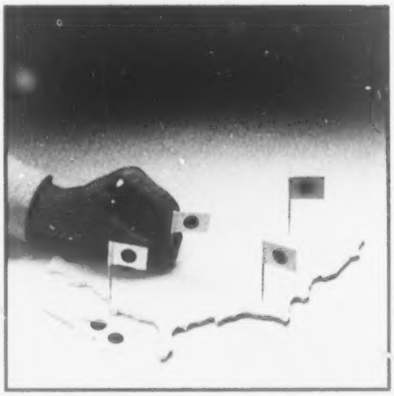

The cash-loaded Japanese haven't yet made the big inroads into the U.S. gasoline market they have in other industries. But that could change, beginning this year.

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The exceptionally high cost of meeting the government's environmental mandates could bring even more traumatic changes for jobbers and refiners in the decade ahead than in the 1980s.

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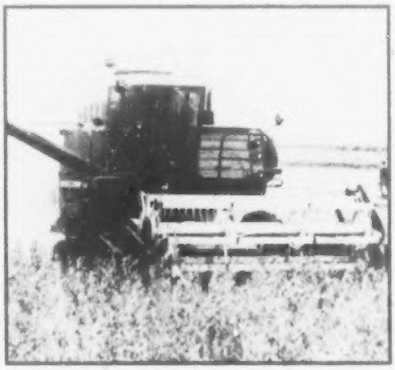

The phasedown of leaded gasoline has forced many jobbers with farm and marine customers to step into the unregulated world of lead additives. This can mean both opportunity and risk.

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• TRENDS

Wall Street's Latest Egg Splatters Oil Takeovers

The mega-billion dollar collapse of Wall Street's Drexel Burnham Lambert, frightening as it was for big investors and small money manipulators alike, unquestionably defused some of the time bombs out there that might have become explosive takeover putsches in the domestic oil industry this year or next.

DBL was just about the biggest apostle of them all in the sale of so-called junk bonds—high risk ventures that paid off handsomely for the high rollers but were, nevertheless, worrisome investments that caused nervous tics and constant surveillance for signs of relapse.

DBL's collapse may have been the death knell for such junk bonds. If this can be considered a marketplace truism, then there's little likelihood that there will be any more mega-billion thrusts or takeover successes in the petroleum industry this year, next year or the rest of the '90s, as far as that goes.

Remember, it cost Chevron $13-billion to acquire Gulf in a white knight takeover a decade ago. Dupont paid $6-billion for Conoco and U.S. Steel laid out another $6-billion for Marathon in a bitter battle with Mobil for the tough little independent. Like everything else in the economy, purchase prices have gone up considerably in the last 10 years. In many cases, corporate price tags have doubled and tripled.

Technically, there are only two oil companies "in play" at this time, Chevron and Marathon, although a half dozen second-tier companies often are talked about as sitting ducks.

Pennzoil made a $2-billion investment in Chevron in 1989, acquiring an 8% interest in the process. It also said it wanted to boost that percentage to 11% this year. This was the money that it wrested away from Texaco in that classic legal battle of the mid-'80s and to head off a potential tax problem; it had to do something with the money before the end of this year.

Pennzoil has insisted that it was not interested in acquisition per se, that this was strictly an investment. However, this doesn't wash with other Pennzoil statements in the past that it would like to own an oil company and was actively looking at any and all possibilities up and down the line. Some time ago it said it had already looked at the private portfolios of at least three dozen companies; not all oil, of course.

Chevron views the Pennzoil investment as a serious preliminary to a takeover battle or, at least, a forced restructuring of the oil company, including the sale of many of its assets to pay off corporate indebtedness. Chevron has already hauled the doughty Houston firm into federal court to force it to reveal company documents or expansion plans which would or should throw some light on its real intentions. This is an ongoing affair that'll probably last all summer.

Carl Icahn, the New York corporate raider, has a 10% interest in Marathon and has already made one run on the company. The indications are that he wants to do it again this spring. The chairman of USX, which owns Marathon, has said on one or more occasions in the past that he would not be adverse to parting with it if the price was right and it would enable the steel company to strengthen itself structurally and focus its attention on its basic business operation. But Marathon has been such a nice cash cow for USX that it's unlikely that it would let go if and when the chips were down. That includes Icahn's possible role this spring.

The big point is that Chevron will probably cost a successful buyer maybe about $25-billion to $30-billion and Marathon would command maybe $10-billion by the time the shooting's all over.

It's hard to see how either of these raids could be carried out without junk bonds or a Wall Street equivalent, whatever it might be called.

The feeling seems to be growing that unless Chevron and Marathon would really want to be taken over (ahem, perish the thought), there isn't much likelihood that either could be drawn and quartered in the immediate future.

—J. Richard Shaner

• MARKETPLACE AT A GLANCE

AVERAGE GASOLINE PRICES IN THE U.S. (per gal.)

January	Gasoline (All types)	Leaded Regular	Unleaded Regular	Unleaded Premium
U.S. City Avg.	$1.093	$1.006	$1.042	$1.230
Regions				
Northeast	1.114	1.091	1.038	1.250
North Central	1.109	1.053	1.072	1.277
South	1.100	1.065	1.041	1.208
West	1.030	0.957	1.003	1.206

Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

STOCKS (Add 000 bbl.)

	3/2/90	3/3/89
Gasoline (Total)	246,393	246,409
Gasoline (Unleaded)*	197,030	165,897
Jet Kerosine	39,870	35,720
Distillates	114,401	106,894
Residual	49,900	43,649

**Included in gasoline total.*

Source: American Petroleum Institute.

NPN

NATIONAL PETROLEUM NEWS APRIL 1990

Industry Reps Seek Tank Insurance Relief

Armed with new survey data confirming an alarming number of service station closings (see box), representatives of the four major gasoline marketer associations met with Environmental Protection Agency administrator William Reilly and petitioned for a suspension of EPA's financial responsibility rules for underground tanks. The groups suggested EPA delay the compliance deadlines from April 26 and October 26 this year to Dec. 22, 1991.

A week later, the same four groups took their appeal to Congress, testifying at a hearing of the Senate Subcommittee on Environmental Protection.

The meeting with Reilly and other key EPA officials gave the industry spokesmen a chance to voice their concerns over a wide range of environmental issues, according to those in attendance.

The petition was signed by representatives of the Petroleum Marketing Assn. of America (PMAA), the Service Station Dealers of America (SSDA), the Society of Independent Gasoline Marketers of America (SIGMA) and the National Assn. of Convenience Stores (NACS). Attending the meeting were SSDA executive director Joe Koach and counsel Jim Daskal, PMAA executive vice president Phillip Chisholm and Jeff Leiter, counsel for both SIGMA and NACS.

The EPA had most of its top guns at the meeting. In addition to Reilly, also present were the deputy administrator, general counsel, assistant administrators for air, policy, water and solid waste, as well as the associate administrator for Congressional Affairs and representatives from the offices of Underground Storage Tanks and the Ombudsman.

Those attending the meeting report that a big portion of the discussion centered on the uncertain financial responsibility situation. They pointed out that although 37 states have adopted some form of a state trust fund, only five state funds have been approved by EPA for meeting financial responsibility requirements.

According to the group, EPA made no

(Continued on page 24)

States Expected To Boost Motor Fuel Taxes This Year

With highway travel booming and the nation's roads and bridges falling into increasing disrepair, the Highway Users Federation says most states are planning to jack up motor fuel taxes and other highway levies in 1990.

In its annual state legislative forecast, the Federation reports that of the 44 state legislatures scheduled to meet in 1990, only Iowa, West Virginia and Wisconsin have not put an increase in highway revenues on the agenda. But that could change too, according to the federation.

Arkansas, Montana, Nevada, North Dakota, Oregon and Texas have no legislative sessions scheduled in 1990.

According to the highway users group, 12 states are expected to seek a flat cents-per-gallon increase this year, while 19 states are considering issuing bonds for highway projects. Nine states will consider an increase on diesel fuel only, six states are planning to use general funds for highway projects and two states are thinking about repealing or decreasing the tax exemption for gasohol.

In addition, 16 states will debate allowing local jurisdictions the option of taxing motor fuel and 18 states are looking at an increase in truck and bus fees and taxes.

The federation says that 10 states are expected to introduce bills to dedicate user fees to highway purposes, but that 18 states are expected to consider measures that would divert user fees to non-highway purposes.

Meanwhile, opposition to a proposed increase in the federal gasoline tax continues to grow among the states, with over 30 having passed resolutions in 1989 opposing such an increase for purposes of deficit reduction. Another 11 states are expected to consider similar resolutions this year. The federation notes that the Federal Highway Trust Fund has built up a cash balance of nearly $17 billion already paid in by highway users but withheld by the feds for budgetary reasons unrelated to highway needs.

Self Serve Remains Motorists' Choice

Self service gasoline sales increased 1% last year as more motorists chose self serve over full serve when buying gasoline. Since 1985, the market share for self serve has increased from 77% to 81%, according to Amoco Oil Co. marketing research.

This is the third consecutive year that self serve sales have risen by 1%. The 1989 survey shows that the self serve market share in the U.S. increased in 35 states and the District of Columbia, while decreasing in two and remaining unchanged in nine.

State	1989	1988	chg.
Alabama	83%	83%	NC
Arizona	94	93	+1
Arkansas	85	83	+2
California	92	91	+1
Colorado	94	93	+1
Connecticut	74	72	+2
Delaware	86	85	+1
D.C.	87	83	+4
Florida	92	91	+1
Georgia	89	88	+1
Idaho	90	89	+1
Illinois	90	88	+2
Indiana	88	88	NC
Iowa	85	85	NC
Kansas	84	82	+2
Kentucky	80	79	+1
Louisiana	91	90	+1
Maine	57	53	+4
Maryland	87	86	+1
Massachusetts	53	52	+1
Michigan	89	87	+2
Minnesota	84	83	+1
Mississippi	83	82	+1
Missouri	85	83	+2
Montana	91	91	NC
Nebraska	82	81	+1
Nevada	94	93	+1
New Hampshire	68	65	+3
New Mexico	92	92	NC
New York	60	59	+1
North Carolina	89	88	+1
North Dakota	81	78	+3
Ohio	87	86	+1
Oklahoma	86	86	NC
Pennsylvania	68	66	+2
Rhode Island	69	66	+3
South Carolina	90	89	+1
South Dakota	80	81	-1
Tennessee	85	85	NC
Texas	92	92	NC
Utah	95	94	+1
Vermont	62	59	+3
Virginia	90	90	NC
Washington	92	91	+1
West Virginia	78	75	+3
Wisconsin	90	89	+1
Wyoming	85	86	-1
All States	81	80	+1

Note: Self-Serve is illegal in New Jersey and Oregon.
Source: Amoco Oil, Monthly Survey.

Twin EIA Forecasts Foresee Little Excitement For Five Years Or More

The latest Short-Term Forecast by the federal government's Energy Information Administration routinely replicates prior projections about the immediate future, but the Annual Long-Range Forecast, issued about the same time, says things could heat up quite a bit by 2000.

An interesting point to be aware of at the outset: Neither the long-term nor the short-term forecasts seemingly give any consideration to the motor fuel upheaval that is in the making for the '90s; i.e., the idea of reformulated motor fuels, a subject now being pursued intensively by the majors in concert with the automakers; methanol as an additive or as a substitute fuel; natural gas as a whole new way to go, etc. There are any number of variations which could explosively alter the whole motor fuel scenario by the mid-to-late 1990s or early 2000s.

Here are some of the highlights of the Short-Term Forecast assuming, of course, there are no major changes in the old order this year or next:

- Gasoline demand will be flat, slightly under last year's 7.31-million b/d and even more in relation to 1991's 7.32-million b/d.
- Average gasoline prices (all grades and services) will peak at $1.11 gal. in the third quarter and average $1.10 gal. for the year. In 1991, the summer peak will be $1.16 gal with the average for the year being $1.11 gal. By way of comparision, last year's peak came in the second quarter, $1.13 gal. The year's average was $1.11 gal.
- Leaded gasoline will inch closer to oblivion in both 1990 and 1991. Unleaded gasoline will command 89.2% of the marketplace this year and 90.3% by the end of next year. But again, with near panic in the motor fuel segment of the industry, who knows what may happen?
- Distillate supplies should be plentiful throughout the rest of 1990 and all of 1991. Distillate wholesale and retail prices will probably average out about 3¢ gal. higher this year as a result of spikes last winter. But 1991 is expected to see them at normal levels again, 61¢ wholesale and 95¢ retail.
- Imports will increase in 1990 and 1991. A recent American Petroleum Institute statement said imports exceeded 9.1-million b/d in January, an all-time monthly high that equalled 54% of domestic deliveries.

What happens on down the road, after 1995 that is, hinges entirely on economic growth. If the latter is lusty, crude oil prices could be in the neighborhood of $47 bbl. in 2010, EIA says. If economic growth is on the low side, crude oil prices likewise would be only $26 or so bbl. That would suggest gasoline prices as high as $3 gal. or so in 2010 or as low as $1.50. (This obviously assumes that there would be no increases in federal or state excise taxes.)

"Rising demand, limits on future contributions from non-OPEC sources, and the concentration of world oil resources in OPEC nations will lead to more rapid increases after the mid-1990s," EIA's long-range forecast says.

Gasoline demand, 20 years from now, may be as much as 1.8-million b/d higher than it is now, or as little as 600,000 b/d more—assuming, of course, that gasoline is still the primary motor fuel in 2010.

The Boxscore: 1989, 1990 and 1991 Forecasts All In A Row

THIS YEAR					
1990	1Q	2Q	3Q	4Q	Year
DEMAND (million b/d)					
Motor Gasoline	6.95	7.43	7.41	7.32	7.28
Leaded	.86	.88	.84	.80	.84
Unleaded	6.09	6.55	6.57	6.53	6.44
% Unleaded	87.6%	88.2%	88.7%	88.7%	89.2%
Distillates	3.51	3.00	2.83	3.23	3.14
Residual	1.44	.99	1.04	1.28	1.19
Total U.S.(a)	17.58	16.84	16.82	17.27	17.17
PRICES (per gal.) (b)					
Motor Gasoline (c)	1.09	1.10	1.11	1.09	1.10
No. 2 Diesel Fuel	1.09	1.00	.99	1.02	1.02
No. 2 Heating Oil					
Wholesale	.69	.54	.55	.60	.61
Retail	1.07	.90	.86	.90	.95
Residual (d)	.44	.38	.40	.42	.42
NEXT YEAR					
1991					
DEMAND (million gal. b/d)					Year
Motor Gasoline	6.98	7.47	7.45	7.37	7.32
Leaded	.73	.75	.71	.68	.72
Unleaded	6.25	6.73	6.74	6.69	6.61
% Unleaded	89.5%	90.1%	90.5%	90.8%	90.3%
Distillates	3.61	3.08	2.91	3.31	3.23
Residual	1.38	.95	1.02	1.27	1.15
Total U.S.	17.67	16.81	16.99	17.93	17.35
PRICES (per gal.) (b)					
Motor Gasoline (c)	1.06	1.12	1.16	1.10	1.11
No. 2 Diesel Fuel	1.01	1.01	1.01	1.03	1.02
No. 2 Heating Oil					
Wholesale	.59	.56	.56	.60	.58
Retail	.94	.90	.87	.92	.92
Residual	.43	.40	.41	.42	.42
LAST YEAR					
1989					Year
DEMAND (million gal. b/d)(*)					(*)
Motor Gasoline	7.08	7.46	7.42	7.30	7.31
Leaded	1.00	.92	.80	.58	.82
Unleaded	6.08	6.54	6.62	6.72	6.49
% Unleaded	85.9%	87.7%	89.2%	92.1%	88.8%
Distillates	3.38	2.98	2.82	3.42	3.15
Residual	1.60	1.24	1.12	1.43	1.35
Total U.S. (a)	17.62	16.81	16.78	17.55	17.19
PRICES (per gal.) (b)					
Motor Gasoline (c)	.98	1.13	1.10	1.05	1.06
No. Diesel Fuel	.94	.99	.95	1.06	.99
No. 2 Heating Oil					
Wholesale	.53	.53	.53	.73	.59
Retail	.86	.86	.82	.97	.89
Residual (d)	.38	.41	.37	.43	.49

(*) Fourth quarter '89 are estimates; (a) includes all other oils; (b) includes federal and state taxes on all products except heating oil which is not taxed; (c) average for all grades and services; (d) average for all grades of sulfur. Source: Energy Information Administration, Short-Term Energy Outlook, dated January, published February 1990.

Updated Survey Shows Fairly Static Growth In Service Station Population

An annual survey taken over by private enterprise after being chopped from the federal budget in January 1989 suggests there have been no significant changes in the service station population in recent years. Sales at individual stations have continued to rise, however, and now average a record-breaking $1-million each for the first time, according to the new survey.

Taken at face value, the new survey implies that the great slump in the U.S. service station population, which has been underway for almost 20 years, has finally come to an end. The all-time high was recorded in 1972—226,500 service stations. The new count is 111,700—just about 50% less than it used to be 18 years ago.

"Franchising in the Economy" had been an annual publication of the Dept. of Commerce for roughly a score of years but it was suddenly dumped last January when the outgoing Reagan administration refused to fund its operations anymore. The new report takes over where the other left off.

The project was taken over by the International Franchising Assn. in Washington as a private enterprise endeavor. The new report, issued in late January, was about the same size than its predecessors, and generally on the same track. The old editor, Andrew Kostecka, was retained as a consultant by the international association to handle the transitional details and lay the groundwork for future surveys.

Service stations counted in his survey are those known as "true" service stations, i.e, those which get 50% or more of their income from the sale of gasoline and related products.

C-store types, garages, car washes, etc., are not included in this survey.

The new study reconfirms that the 1989 outlet population was approximately 112,000, down 1,150 from the preceding year. For 1990, the survey said the population would decline almost fractionally—to 111,700. This is a change of only 0.3%.

On the other hand, sales at the service station facilities boomed in 1988, 1989 and 1990. They now exceed $1-million, a new all-time high.

Chart 1 shows some of the details.

Interestingly, the new franchising report also updates its older figures on convenience stores. The problem here is that the franchisees and the franchisors represent only about one fifth the real population.

This study accounts for 17,000 stores while industry circles generally agree that there are approximately 80,000 stores in business. Chart 2 provides an overview.

Station Growth Is Static But Sales Hit Record Highs

Chart 1

	1990	1989	1988
Number of Service Stations			
Company Owned	20,106	20,160	20,637
Franchisee Owned	91,594	91,840	92,783
Total	111,700	112,000	113,150
Ratio to Total Establishments			
Company Owned	18%	18%	18%
Franchisee Owned	82%	82%	82%
Sales of Products and Services (Add 000,000)			
Company Owned	$20,711	$19,537	$18,345
Franchisee Owned	93,348	89,004	83,571
Total	$115,059	$108,541	$101,916
Average per Station (000)	$1,030	$969	$901
Employment	NA	NA	626,800

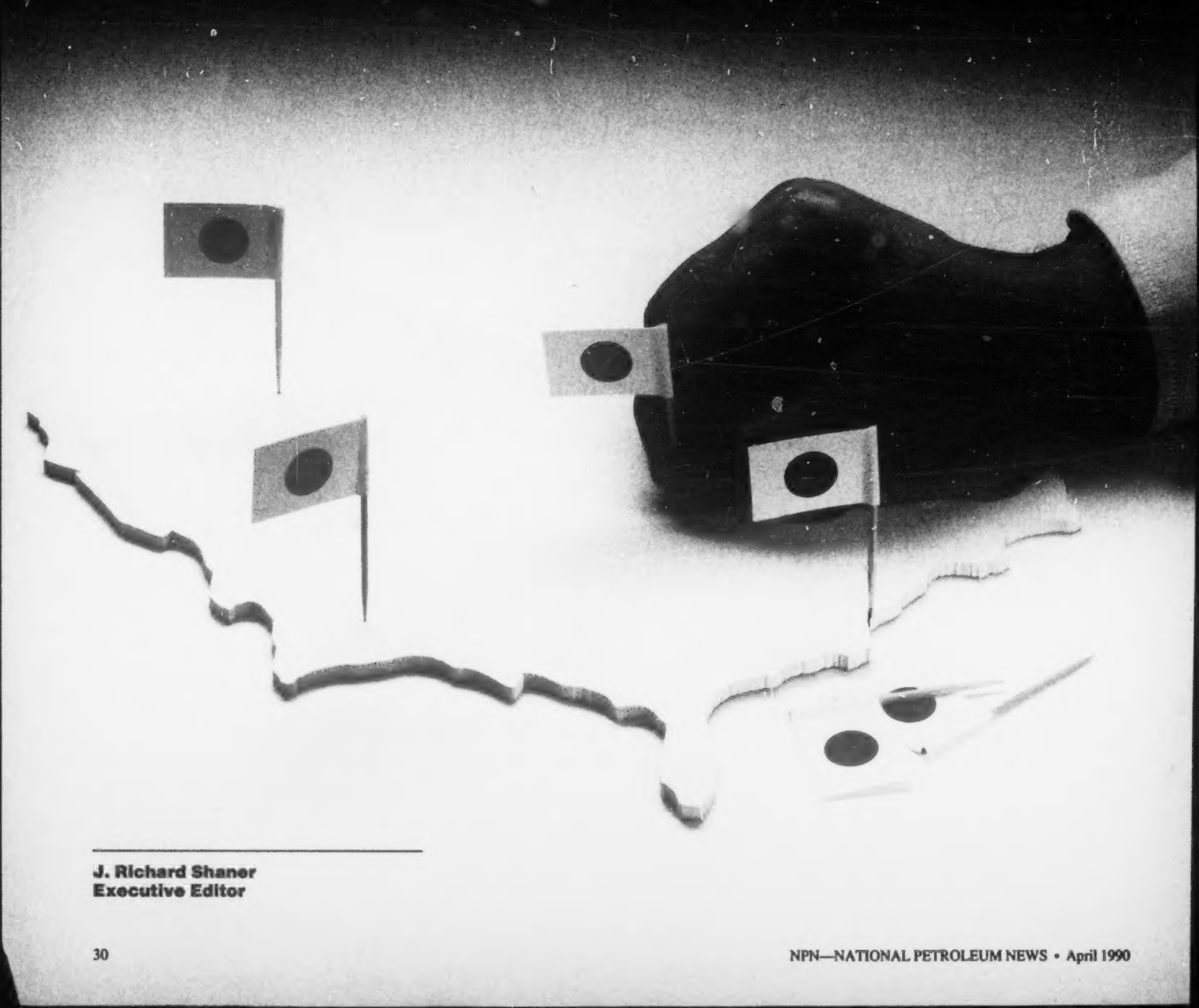
Source: "Franchising in the Economy 1988-1990," published by International Franchising Assn., Washington, D.C.
(*) This is the 1988 data as it appeared in the last government survey, "Franchising in the Economy 1986-1988," published in January 1988 by the U.S. Commerce Dept.

Chart 2

	1990	1989	1988
Number of stores			
Company Owned	10,880	10,948	10,794
Franchisee Owned	6,587	6,341	6,417
Total	17,467	17,289	17,211
Ratio to Establishments			
Company Owned	62.3%	63.3%	62.7%
Franchisee Owned	37.7 %	36.7%	37.3%
Total Sales (000)			
Company Owned	$9,572,172	$9,415,650	$9,247,960
Franchisee Owned	4,846,287	4,634,840	4,647,980
Total	14,418,459	14,050,490	13,895,940
Average sales per store (000)			
Company Owned	$880	$86C	$857
Franchisee Owned	736	731	724
Total	825	813	807
Employment (Total)	NA	NA	149,150
Company Owned	NA	NA	117,863
Franchisee Owned	NA	NA	31,287

Source: Same as above.

Get Ready...Get Set... Japanese Are Sizing Up U.S. Gasoline Market



J. Richard Shaner
Executive Editor

Historic times are on the horizon for American oil marketers, especially those in the gasoline segment. About the only U.S. business operations that the cash-loaded Japanese haven't bought major pieces of yet is the domestic oil industry. The Nipponese are known to be working on that now, however. More than likely, the preliminaries will start happening this year or next with all signals in the go pattern by 1992-'93.

In other words, Japanese-owned (wholly or in part) service stations can be expected to be a part of the American highway scene just like the Toyotas, Subarus, Nissans, Hondas and Mitsubishis that are out there by the millions now.

They're not going to be a string (or strings) of stations designed especially to cater to motor vehicles with Asian heritages or anything like that. Look instead for good, clean stations of basic design, with MPDs, car washes, C-stores, cash machines, etc., and maybe some extras competing for the Yankee dollar just like the other foreign-owned oil companies already out there—Shell, BP-America, Citgo, Total and Texaco's Star Enterprise.

What the Japanese are likely to bring into the American scene may be uplifting, however. They're extremely competitive, almost voraciously so. They've coped with government controls, allocations and thin margins for years and are just now emerging from these restrictions and limitations. In most of their "Buy America" purchases so far, they have been sticklers about wanting their own top execs to be management-level participants in running day-by-day operations. They are consumer-conscious to a degree many American oil marketers never experienced before.

Timetable

Depending on which way they come in—by acquiring middle-sized oil companies complete with refineries and service stations or simply strings of service stations—there seems to be little question that they have the potential of shaking up gasoline marketing like it hasn't been shaken for years.

All that's really needed to get Japanese investors and Nipponese oil companies to make the financial plunge is a rise in crude and product prices.

The closer global crude prices edge up to the $30 to $35 bbl. range—which most economic forecasters think is a lead pipe cinch by the mid-to-late '90s, most certainly by 2000—the headier will become the prospects.

World crude oil prices are around $22 bbl. now, having crawled back slowly from the 1986 collapse and the $14 bbl. it spawned then. The all-time high for imported crude oil was the $35 bbl. to $40 bbl. racked up in 1980 and 1981.

But don't look at this $35 bbl. crude as the only factor of consideration. The Japanese are overburdened with yens and ambitions and are known to be looking at any and all "windows of opportunity," in petroleum exploration, production, refining and marketing in North America.

They've cut their operable refining capacity by roughly 2-million b/d to about 3.9-million b/d. But that's still enough to take care of all of their homeland gasoline requirements, if need be, and still have upwards of 100,000 b/d of high grade, high octane gasoline available for export. No telling where this surplus would wind up but it might get to California, as did Chinese motor fuel of a lower quality several years ago.

There had been considerable speculation last summer that 1990 or 1991 would see the initial "big time" penetration of the U.S. petroleum industry.

There were, in fact, investment conversations going on in early 1990 as well as marketplace evaluations by Japanese firms

COSMO
COSMO

Community Plaza

Typical of Japanese service stations are these operated by Shell/Kosan and Cosmo Oil Co., one of the top five independent oil companies in Japan. The stations are clean, well kept and attractive. (Note the dual language signage. The Japanese have a fondness for English language signs which, some sources say, dates back several hundred years.) Japanese stations in the U.S. would be no different: good, clean stations of basic design, with MPDs, car washes, C-stores, cash machines, etc.

which had set up satellite headquarters in New York and the West Coast for that purpose alone *[NPN*—Nov. '89, p7).

But that seems to have been backed off a bit for now; not terminated by any means, just slowed down by the problems associated with Japan's deregulation of its own gasoline industry, which is in the final stages, and by global surpluses of crude and product which are inhibiting price increases.

One conversation between a Texas oil company and a top-ranking Japanese firm was terminated in November and revived for "another look" in January. About the same time, another big Nipponese oil company had some of its top marketing executives eyeballing service station sites on the West Coast, not for immediate investment but to get a handle on what the competition would be like for an invader.

Meantime, some American companies were known to be beating the bushes privately for joint-venture investors, Japanese or otherwise, and/or letting it be known that they would be more than glad to sit down and talk.

Rising sun alert

When the Japanese do get here, watch out America! Watch out. Watch out all downstream marketers, fuel oil, avgas and similar products included. If the Japanese apply the same shrewdness, toughness and technologies to the local scene that they do in their own island empire marketplaces, U.S. gasoline operations may never be the same. One only has to look at the automobile market to see the handwriting on the wall.

There is no such thing as self service in Japan. A customer filling his own tank is unthinkable. This would change in the U.S.

THE JAPANESE MOTOR FUEL MARKET

**By Volumes and Market Shares

Company	U.S. Gal. Per Year (Add 000) *	Mkt. Shr. Percent
Nippon Oil	1,889,564	16.6%
Idemitsu	1,658,124	14.6%
Shell	1,535,007	13.5%
Cosmo	1,387,583	12.2%
Kyodo	1,334,742	11.7%
Mobil	929,458	8.2%
Mitsubishi	912,814	8.0%
Esso	715,192	6.3%
General	518,626	4.6%
Kygnus	212,946	1.9%
Kyushu	157,992	1.4%
Taiyo	113,078	1.0%
Totals	11,365,126	100.0%

***By Service Station Population*

Company	No. of Svc. Stas.	Mkt. Shr. Percent
Nippon Oil	9,890	18.4%
Idemitsu	8,951	16.7%
Shell	7,081	13.2%
Cosmo	6,920	12.8%
Kyodo	6,386	11.9%
Mitsubishi	4,486	8.4%
Mobil	3,591	6.7%
Esso	2,353	4.4%
General	2,207	4.1%
Kygnus	885	1.6%
Kyushu	798	1.5%
Taiyo	146	0.3%
Totals	53,694	100.0%

***By Gals. Per Outlet*

Company	Avg. Gal. Per Sta. Per Year *	Avg. Gal. Per Sta. Per Month
Taiyo	774,507	65,542
Esso	303,949	25,329
Mobil	258,830	21,569
Kygnus	240,617	20,051
General	234,991	19,583
Shell	216,778	18,065
Kyodo	209,011	17,418
Mitsubishi	203,481	16,957
Cosmo	200,518	16,710
Kyushu	197,985	16,499
Nippon	191,058	15,922
Idemitsu	185,245	15,437

** Like most of the world, Japan uses the metric system for its statistics. The U.S. gallons in these tables are conversions, using 3.785 liters as the counterpart of 1 U.S. gallon. These statistics are for a 12-month period ending last summer and were supplied to NPN by responsible Japanese sources.*

***By Motor Vehicles in Use*

Year	Passenger Cars	Trucks, Buses, Etc.	Total Vehicles
1988	30,776,243	21,673,912	52,450,155
1985	27,844,580	18,312,681	46,157,261
1980	23,659,520	14,196,654	37,856,174
1975	17,236,321	10,854,237	28,090,558
1970	8,778,972	8,802,871	17,581,843
1965	2,181,275	4,118,745	6,300,020
1960	457,333	896,193	1,353,526

Source: Japan Ministry of Transport.

For example, retailer competition for gallonage in the big cities of Japan is so intense that driveway hawkers or greeters are used by all of the service stations to lure customers in to the pumps.

They shout, they cajole, they bow, they soft soap potential customers with smiles and elan, and all but escort them personally to the islands for service.

There, neatly dressed and/or uniformed attendants (lads and lassies alike) do what American stations used to do in the '60s—they wash the windows, check tire-pressure levels, rub off blemishes on the car, check the oil and other fluid levels, whisk dust or dirt (real or imagined) from the floor, everything and anything to make their customers happy, whether they buy a liter or a tank full of motor fuel.

Not just one attendant either, but several for each car. The service people take training and certification courses to qualify for their jobs, are happy with their work and are paid about $1,400/mo. American wage scales are usually federal minimums of about $700 to $800/mo. But then Japan's economy is on fire and inflation has made routine items fairly expensive by American standards.

Another item of importance: Japanese marketplaces, i.e., the service stations, are dominated and controlled not by the suppliers and brands, as in this country, but by the wholesalers-distributors. These men negotiate their prices with the suppliers but also with the outlets which they service. Unlike the American "cash on the barrelhead" approach to gasoline purchases, Japanese retailers do not pay for the product until after they sell it. The suppliers usually transport the product to the stations as specified by the distributors. 'Tis a bit confusing but the dynamite is in the hands of the distributors—along, of course, with the government controls that are now being phased out.

Operational scenarios

At this point in time, it would be hard to say, even speculate, on how the Japanese would operate in the U.S. or how long before their entry would have more than token impact.

For example, would the initial intervention be a joint venture, such as the Texaco/Saudi Arabian or the Citgo/Venezuelan combines? Would it be through crude oil, refineries and thousands of service stations already in place? Or would it be a full acquisition of a second-tier company, also with one or more refineries and service stations, such as a Marathon or Phillips or Unocal?

Ah So: In Japan, Things Are Different—Or Are They?

It's interesting to note some of the intricacies of the Japanese marketing and distribution system as it currently operates.

For instance, according to a study explaining deregulation of the gasoline business, this is the way things are accomplished:

"In Japan, retailers do not pay for gasoline on delivery. Rather the retailers negotiate the purchase price with the supplier after the retailer has sold the gasoline. Retailers often engage in price wars to capture a larger market share. The refiners, to maintain marketing shares through the limited number of service stations, are obliged to subsidize the retailer."

The same study offers these comments:

"Deregulation of the gasoline retail industry has extremely important implications for Japanese refiners. Currently (in 1988) there were 59,082 service stations and 34,693 dealers in Japan. MITI (a government agency) has placed a moratorium on the number of service stations. A new station can be built only if another station is shut down."

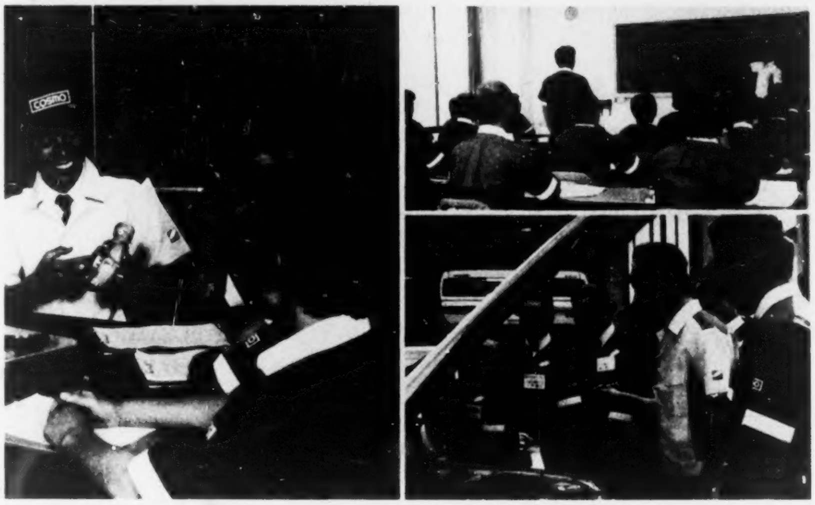
And here is more about the games that retailers and refiners play:

"A curious practice known as 'gyoten' has evolved between refiners and retailers. Prior to the liberalization of gasoline imports, a refiner wishing to increase gasoline sales beyond his production quota (government ceiling) could do so by buying gasoline from a competitor's retail outlet and then selling the gasoline at one of his affiliated stations.

"This type of operation is a somewhat costly maneuver since the retailer or distributor sells the gasoline to the refiner at spot prices which are substantially above the refiner's production costs and often above wholesale prices. (Anti-monopoly laws prevent refiners from selling directly to one another.) The refiner then sells the gasoline to his affiliate, often at below the wholesale price. Although import liberalization has offered refiners an alternative supply channel, this supply channel is limited by administrative (government) guidance. 'Gyoten' still operates as a main redistribution network."

One more little item for the road, from another study completed earlier this year:

"Gasoline is the cash cow of the Japanese refiners. The refiners have at times made large profits on gasoline due to high internal prices. These profits have been used to support low-priced sales of middle distillates, particularly kerosine. For Japanese refineries therefore, gasoline is the make-or-break fuel."



Japanese oil companies run their service people through training and certification courses to qualify for their jobs.

Or would it be just a string of service stations for openers, using them as a nucleus for more to come?

A small Texas firm with substantial expertise in unattended self-service operations was actively discussing such a possibility with a Japanese producer in January. These talks could very well reach a successful conclusion in the first quarter of this year. Such a thrust in this direction—unattended self service—could put an enterprising invader way up front in an advanced marketing concept just taking hold in the U.S.

The Japanese have the money to pretty well do as they please, make no mistake about that. The Japanese yen was worth half again as much as the U.S. dollar earlier this year. And the petroleum industry in the United States is about the only major area in their own oriental "Buy American" plan that they haven't penetrated yet. They are into banks, movies, communications, real estate (remember, they even bought 51% interest in Rockefeller Center in New York City—a nostalgic American show place—for $860-million last winter, and they already own the Exxon and Mobil skyscrapers also in Manhattan), etc, etc.

In January, they bought a holding firm that owns and operates a half-dozen restaurant chains that generated almost $200-million in profits last year and included such tourist strongholds as Mama Leone's in midtown New York. A New York investment firm reported in January that the Japanese

(Continued on page 36)

Overview: How Japanese Gasoline Marketers Operate

The Japanese are noted for the toughness of their street competition for gasoline volumes and their ability to prosper despite the thinness of government-controlled margins. Soon they will be competitors with American marketers, joining Shell, BP-America, Total, Citgo and Texaco's Star Enterprise in the lineup of foreign firms already in business here.

By American standards, most of their statistics and many of their activities aren't exactly comparable with those of their U.S. counterparts, however; recognizing, of course, that the island empire is only one-fifth the size of the United States but with a population density several times greater.

For example, a dozen oil companies not only dominate gasoline sales in the land of the Rising Sun, they own 100% of it. In the United States, an American Petroleum Institute concentration ratio study shows that the top 15 companies handle only 65% of the nation's volumes and that the next 15 push that figure up to only 76%. Dozens more, all independents, account for the final 25%.

Japan's gasoline consumption sounds enormous—43-billion liters in 1989. Translated into more familiar U.S. gallons, however, the consumption total is equivalent to 11.3-billion gal. That's roughly 10% of the U.S. total which was about 116-billion gal. last year. Stated another way, for comparison purposes only, that's a little less than what was sold in California alone in 1989; or by one company, Shell Oil, the nation's top gasoline marketer, in a full year.

Japan had 53,000 service stations, with the biggest single operator being Nippon Oil which has not quite 10,000 of them. By way of comparison, the U.S. has at least seven majors that have more than 10,000 stations each—Texaco, Exxon, Chevron, Mobil, Unocal, Shell and Amoco. Japan has a government lid on the service station population, however. Marketers can build new stations only to replace those that are torn down.

As might be expected, the throughput volumes at service stations are on the low side. This reflects not only the marketplaces themselves but also government restraints to dampen consumption. Stations average about 20,000 gal./mo. This average includes the Taiyo chain of 146 stations which has no competition in an insular area and thus records an unusual 65,000 gal./mo.

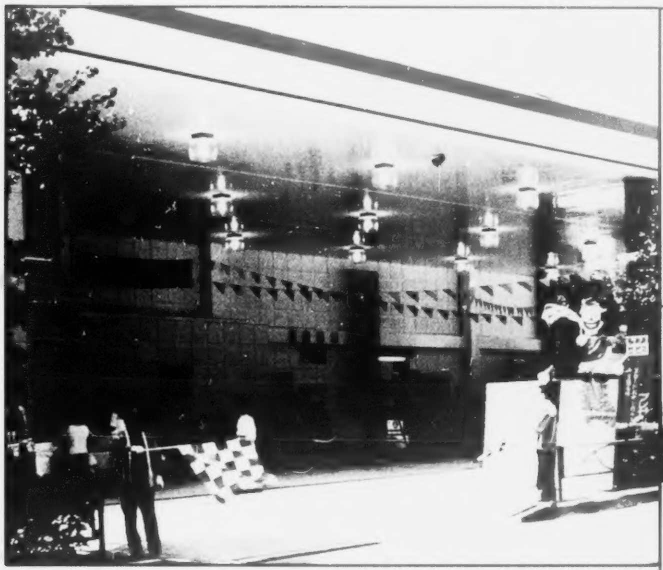
The United States has any number of stations that regularly sell more than 200,000 gal./mo. and some are known to exceed 500,000 to 600,000 gal./mo. In 1988, the Japanese stations served all of 52.5-million motor vehicles, vis-a-vis a U.S. total of 185-million.

Here's an informal, thumbnail commentary on Japanese gasoline marketing:

(Continued on page 35)

COSMO
アイデス
11 12345 67890 1234
00-00
COSMO CARD
COSMO
サンクス
67890 1234
00-00
COSMO CARD
COSMO
ルート

Use of credit cards is limited compared to the U.S. Foreign credit cards are increasingly accepted but rarely at service stations, if at all, outside of Tokyo. Oil companies are beginning to promote them for automotive purposes, however. Cosmo has three different credit cards: Red is for individual customers; Green/Blue for individual corporate and group customers; Blue for big customers.



Competition in the big cities of Japan is so intense that driveway hawkers or greeters are used to lure customers, direct cars in the stations and to exits.

(Continued from page 34)

To begin with, just about every type of service station operates in the marketplaces. To understand this, one must remain aware of the fact that the Japanese concept of selling goods is radically different from that which prevails in the United States or Europe.

The customer is truly king and expects the most detailed and attentive service to be provided, even for the sale of minor items. There is no such thing as self service. The idea of making a customer fill his own tank is unthinkable. No doubt this will change in the future but for the moment, self service is absolutely taboo in Japan.

Unleaded gasoline is mandatory. Pump prices are high by American standards. Unleaded regular sells for about $3.40/gal. Unleaded premium (98 octane) gets about $3.90/gal. The high prices reflect high taxes to help depress consumption.

Clean air programs are everywhere as are engine exhaust systems and catalytic filters. The Japanese, however, haven't gotten around yet to the U.S. industry's current—underground storage tanks and environmental regulations. That's yet to come.

Service stations in the urban areas are always fully manned with a number of forecourt personnel that would truly be surprising to an American consumer. In the larger service stations, these personnel swarm around a customer's car—washing the windows front and back, the body work, emptying ashtrays, inspecting liquid levels and so on. This type of service is almost obligatory even if the customer buys only one liter of gasoline. One liter is a bit larger than an American quart. Outside the metropolitan areas, this standard of service cannot be met uniformly but there exists the same degree of desire and determination by the attendants.

The size of stations and the range of services vary widely. Toyko, Osaka and other big city centers have many full-service stations with multiple car washes and service bays. Increasingly there are convenience store attachments with rest rooms and restaurant facilities. In the big cities, there are some 24-hour stations but these are not the rule. In the country, they are almost rare but the stations do operate from 6 a.m. until midnight.

The structure of the distribution network cannot be explained adequately with generalizations. There are many independently owned outlets as something approaching 70% are, in fact, outside the direct control of the wholesale distributors. There is an enormous variation of dealerships, sub-dealerships, concessionaires and retailers. This is the last segment of Japan's deregulation program that's now underway. It should be over by 1993. But observers are convinced that the resultant free market that will emerge is unlikely to be permitted to become a totally undisciplined free-for-all. Chaos resulting from untrammeled individual enterprise is not a popular concept in Japan and is contrary to a deep cultural current.

Credit cards, while not unknown, are somewhat limited in use and acceptance. Internally, the Japanese financial system is well behind the universal use of such accommodations. Foreign credit cards are increasingly accepted but rarely at service stations, if at all, outside of Tokyo. Oil companies are beginning to promote them for automotive purposes, however. Japan, nevertheless, is a cash society with billions of bank notes in circulation and cash dispensing machines all over the place. Despite this, robberies are rare and violence as a result of robberies even rarer.

Interestingly, Japanese consumers are seeking bigger and higher quality passenger cars. Auto makers shouldn't have trouble supplying such equipment. The basic problem is roadways and parking space. With two people for every motor vehicle in Japan now, traffic jams are dreadful and Tokyo itself may be overwhelmed and unable to handle any more.

May 1990

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Why OPEC Gets Stronger, Richer

Survey Shows Jobbers Still Doing Well

What's Ahead For West Coast Crude Supply

NPN

National Petroleum News

Truckstops: Why The Building Boom I[illegible]ally

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Editor's Viewpoint

The criminal indictment of Exxon a few months ago on two felony and three misdemeanor counts for the Exxon Valdez oil spill would be laughable if it weren't so stupid and pathetic. What next? Does Exxon's board of directors face a firing squad? Is chairman Lawrence Rawls sentenced to 300 years on a chain gang spit shining rocks on the Alaska coast? The Valdez spill was a tragic mishap with awful environmental consequences. But a criminal indictment just is not warranted. The spill wasn't intentional. It was not a willful, malicious act. The indictment is an unfounded, spiteful overreaction.

Should Exxon be held accountable? Yes. Should it pay a price? Yes. But how much? The company says it has already shelled out more than $2-billion in cleanup costs and $180-million in claims. Cleanup operations will continue this year and cost even more.

And it's paid another price. Its public image was shattered. Once ranked high among corporations demonstrating civic and environmental responsibility, it plummeted to the opposite end. If you think that doesn't bother Exxon, think again. A generation may pass before the company regains its prior stature.

That too is undeserved, stemming mainly from generally unfair media coverage. I've criticized Exxon for bungling the public relations on the Valdez incident. But that doesn't account for the drubbing it took from the media, which for the most part focused almost entirely on the negatives and very little on the massive and effective cleanup operation Exxon launched. Even Secretary of Energy James Watkins said at API's last annual meeting that "Exxon...did not get the credit it deserves for the job." He added that he didn't think the "federal government could have marshalled the forces as quickly and effectively as your industry did." That's for sure. If the bureaucrats who were so quick to condemn and indict Exxon had been in charge, they'd still be looking for the damn spill—probably in Idaho.

Despite all this, Exxon still gets slapped with criminal indictments. It's like a man who's been flogged into unconsciousness, dunked like a Salem witch and then gets sentenced to five years in the electric chair. One reason is clear to me: If any company represents "Big Bad Oil," it's Exxon. And the spill gave the blustering politicians and pompous bureaucrats a chance to flex their muscles for those Looney-Toons, Chicken Little environmental extremists.

The affair has been taken out of the realm of reason and reality and into some surrealistic zone of irrationality. Franz Kafka, where are you now?

—Frank M. Victoria

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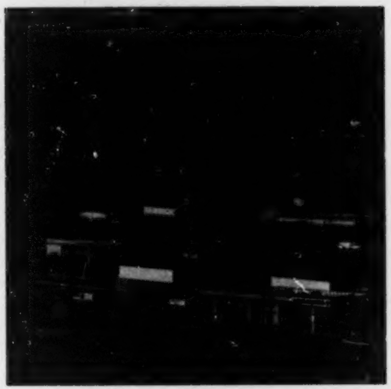

Another cycle of truckstop expansion is underway, with independent marketers setting the pace with sizable investments in bigger, more complex travel centers. A few of the majors are increasing market share, too.

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Is the small petroleum marketer kaput? Not according to an independent random survey done for *NPN*. Survey results show clearly that there are plenty of small jobbers plying their trade in the industry. Plenty of statistical data is included in this marketer profile.

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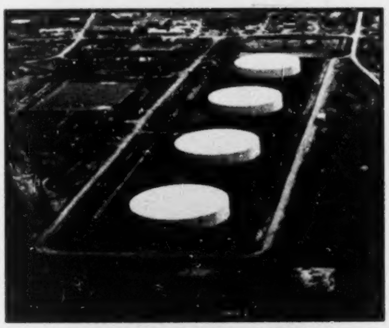

The future looks bright for OPEC for the next 10-15 years at least. Not only does the 13-member cartel have a lock on crude reserves and production, it looks like it'll be taking a bigger role in the product markets, too.

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• TRENDS

Recent Events Show Plight Of C-Store Chains

With two of its largest and best-known companies (Southland Corp. and Circle K) in deep financial trouble, speculation is rising that the convenience store industry could be headed for a shakeout greater than what it is already experiencing, on the scale perhaps of what happened to neighborhood service stations not long ago.

High debt burdens and the collapse of the "junk bond" market were being given as the primary reasons for the financial problems at Southland and Circle K.

To a large degree, however, these companies' financial woes underscore the impact that fast-changing trends are having on the convenience store industry. Each company had projected, when they incurred their huge debt loads a few years back, that they would be getting much higher cash flows from their C-store chains than they are.

Southland says an "unprecedented level" of competition in the C-store business caused the shortfall in its cash-flow projections made four years ago for its 7-Eleven stores. Circle K blames both intense store competition and internal management problems for its troubles.

Other sources say the C-store industry, in general, is facing many problems nowadays with store sales, on average, generally flat due to a saturated market and changing consumer purchasing habits. In addition, stores that sell gasoline are saddled with the same high costs of upgrading storage tanks as gasoline marketers.

Quite a few store chains smaller than Southland and Circle K, some sources believe, are also highly leveraged and face cash-flow problems. Some of these are still in debt from buying up old service stations (along with their old tanks) and remodeling them into stores. It's believed that many of these units are now in trouble.

"We know of some small-store chains that are making like $12,000 a year out of their units," says an oil industry source. "They are having to service their debt out of that and they haven't even faced the tank cleanup costs yet. There's no way they can survive."

At the same time that the number of C-stores has been increasing, shifts in mainline grocery chain operations have occurred, robbing the little stores of the "convenience" niche they once held. Most large supermarkets are now open longer hours, offer a wide variety of merchandise in addition to grocery items, often have fresh "deli-type" prepared foods and express checkout lanes. Shoppers increasingly are bypassing the smaller stores with their traditional "high-price" image on their way to the larger ones.

In addition, independent gasoline chain retailers with their usually prime locations and low-price, high-volume" concept of marketing, have been making inroads on the more traditional-type C-stores. Some of these have pioneered high markup fast-food deli operations, giving them three profit streams instead of just two (groceries and gasoline).

As some sources see the situation, the small traditional-type C-store is now caught in a vise between the supermarkets and the "low-price, high-volume" gasoline independents. Such traditional small stores can no longer command high markups for "convenience," as in the past, and the larger stores and independents won't let them have higher sales volumes to offset lower markups.

One large, successful "low-price, high-volume" gasoline independent gives an example of the competition traditional C-stores now face from his of operations.

In the early 1980s, this company found that it could get a 20% or better annual return on units that averaged 150,000 gal. in gasoline and $30,000 in store sales per month. It now needs between 200,000 and 400,000 gal. of gasoline and $60,000-plus store sales due to higher per-unit investments and operating costs. In addition, it's heavily into fast-food operations, depending on its relatively high markups to increase overall in-store profits.

Some sources believe it's just as tough now for small, traditional-type C-stores to compete with such competition as it is for neighborhood-type service stations.

—Marvin Reid

• MARKETPLACE AT A GLANCE

AVERAGE GASOLINE PRICES IN THE U.S. (per gal.)

February	Gasoline (All types)	Leaded Regular	Unleaded Regular	Unleaded Premium
U.S. City Avg.	$1.086	$1.011	$1.037	$1.227
Regions				
Northeast	1.121	1.099	1.046	1.259
North Central	1.075	1.032	1.039	1.240
South	1.102	1.082	1.041	1.208
West	1.045	0.974	1.018	1.214

Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

STOCKS (Add 000 bbl.)

	3/30/90	3/31/89
Gasoline (Total)	228,283	231,781
Gasoline (Unleaded)*	172,162	159,150
Jet Kerosine	40,855	36,826
Distillates	105,781	95,388
Residual	44,118	40,832

*Included in gasoline total.

Source: American Petroleum Institute.

would go into their shops and say, 'We've been looking over your books and you owe us $65,000 in taxes for the past three years.' After they picked the guy off the floor, they'd say, 'Don't worry about it. We can take care of it.'"

Jermyn says the bribes that came range from $500 to $4,000—depending upon the gullibility of the owner in question and his eagerness to avoid potential tax problems.

Tax officials say they had videotaped some of the payoffs. They also say that in the home of one of the alleged extorters they confiscated crack pipes, crack and marijuana.

Canadian Gas Plans For Northeast Snafued

Iroquois Pipeline's plan to import Canadian natural gas into the marketplaces of the Northeast may have been hung badly by a Canadian Court ruling that requires a fresh look at fee structures.

Canada's National Energy Board was instructed to assess the Trans-Canada Pipeline Project's "rolled-in" method of applying tolls when it considers an application from the Toronto utility.

The mandate was handed down after the Industrial Gas Users Assn. complained that the rate structure would unfairly pass the expansions cost on to them.

By Mark Emond
WEST

What Crude Supply Looks Like For The West Coast To 2,000

With all of the uncertainties hanging over the possibility of discovering new oil fields on the West Coast, one certainty stands out—the amount of crude oil now known or expected to be produced is all there is.

In a general way, it's known that Alaskan North Slope (ANS) and California onshore (including tidelands) production is declining and will continue to do so indefinitely, and that production on federal outer continental shelf (OCS) lands off California is increasing. But what are the dimensions of each, and what will the supply picture be in the year 2000?

California oil production was running more than 1,100,000 b/d as recently as 1985, but when crude oil prices plummeted in early 1986, production fell rapidly as producers shut down marginal wells. It's currently running around 985,000 b/d.

Alaska North Slope production is flowing through the pipeline and out of Valdez at the rate of 1,850,000 b/d.

Production on federal OCS lands off California is running 85,000 b/d.

There's a bit of other regional domestic production available, but these three sources are the largest by far. They amount to a total of 2,920,000 b/d.

ANS crude represents 63% of this West Coast oil production, California onshore 34%, and California offshore 3%.

What will the picture look like in the year 2000?

Although no studies have been made public recently on the anticipated rate of decline of California onshore production, some industry sources expect production to be about 800,000 b/d at the turn of the century. Credit the sustained level to intensive secondary and tertiary recovery.

ANS production is expected to decline to 705,000 b/d, according to the Alaska Dept. of Natural Resources in a March report.

A new study by the Interior Dept.'s Minerals Management Service (MMS), Pacific OCS Region, says California offshore production will peak in 1999 at 198,000 b/d, declining to 184,000 b/d in the year 2000.

Production from these three sources total 1,689,000 b/d. This is a 58% decline in production in a decade. ANS crude at that time will represent 42% of this West Coast oil production, California onshore 47%, and California offshore 11%. Thus California would again become the major source of regional crude.

These projections—not to be presumed exact—are all contingent on there being no new discoveries. Such an assumption appears sound for 1990, given the public mood, but a lot could happen by 2000. Any supply emergency in the world might get people thinking.

Exploration in the Pacific Coast region is weak, with little prospect of changing soon. Onshore oil exploration is almost nonexistent.

New leasing offshore on federal lands is on hold indefinitely and in the lap of politics, including the President's, putting them beyond surmise. Exploration in the Alaska National Wildlife Refuge (ANWR), potentially the best prospect in the country, seems highly unlikely in the wake of the Alaska oil spill.

As for offshore California production, more is ready to go, but hung up. After years of foot-dragging, Santa Barbara County is in what appears to be the last ditch, refusing to permit tankering of Pt. Arguello crude to Los Angeles refineries. Something would have to give, but in what direction nobody knows.

Chevron and its 17 partners have spent $2-billion developing the Pt. Arguello field, but they have not yet been allowed to ship a barrel. MMS projections assume some of this production will begin this year. The oil companies want to begin tankering 50,000-70,000 b/d by midyear. MMS will not say how much of this production they worked into their projections, although it's a lesser amount than that.

Despite the many imponderables, Pacific Coast oil production will soon be on an inexorable decline—barring new discoveries. Regional crude supply will fall farther behind demand.

In the course of the 1990s, ANS crude will become considerably less important, although will still be formidable. OCS crude will become more important, but still be minor. California production will gain in relative importance.

Perhaps more significantly, a region that has been endowed with superabundant domestic oil supplies for more than a decade will have to increase its foreign imports substantially. Barring another major discovery, PAD District 5 will begin to look pretty much like the rest of the United States.

Chevron Decides To Stay In Alaska

After actively trying to sell all of its refining, marketing and pipeline businesses in Alaska for several months, Chevron USA did an about face this past March and decided to continue full operations there. The company has been operating in Alaska for more than a century.

Chevron couldn't get the price it wanted, sources say. Says Dave Hoyer, senior vice president, "The Alaskan operations are profitable, and we believe they have synergies that make them more valuable to us than anyone else." That's what the bargaining apparently demonstrated.

Chevron's Alaskan operations consist of:

- A refinery at Nikiski that processes 18,000 b/d of crude oil, making jet fuel, diesel fuel and asphalt.
- Seventeen company-owned service stations, 15 of which are leased by independent dealers.

- Jobber supply contracts in Alaska.
- Two Anchorage storage terminals for light products and asphalt.
- Half ownership of the Kenai Pipeline, which operates 23 miles of crude oil pipelines.

Where Arco Stands If Tosco Sells Out

Tosco reported in February that it continued to talk actively with several multinational firms for the sale of the company or its refinery in Avon, Calif., and that it did not expect to make further announcements on its progress "until some time in the second quarter," that is, April, May or June.

A data room had been established in the offices of Bear Stearns in Los Angeles, and "some visits have already occurred, others are scheduled, and discussions with various parties are continuing," explains Thomas D. O'Malley, CEO and president. O'Malley represents the group of investors who gained control of Tosco through stock purchases.

With speculation rampant on who the interested buyers might be [*NPN*—Jan., p14], interest also turned to Tosco's long-term exchange agreement with Arco, which the major supplies 50,000 b/d of Alaskan crude oil to the 125,000 b/d Avon refinery in exchange for an equivalent amount of gasoline.

The agreement, signed Oct. 2, 1986, gives Arco rights to the refinery. Here's what the contract says about that:

"If, at any time or from time to time, Tosco wishes to sell the Avon refinery and associated operations or any material part thereof, Tosco shall first offer to Arco, by a written offer setting forth the price and terms and conditions of sale, the interest offered for sale. Arco shall have 90 days in which to accept the offer. If Arco does not accept the offer, Tosco, for period of 180 days, shall be free to offer that interest for sale to others at a price and on terms, considered together, no less favorable to Tosco than as offered to Arco. Throughout such 180 day period, Tosco shall provide Arco information concerning all other bids and bidders and a continuing opportunity to submit a favorable bid in competition with all other bidders. Tosco shall sell the Avon refinery to Arco if Arco's bid provides a then present value at least one hundred thousand dollars higher than the then present value of the highest other bid. In any event Tosco shall not sell the Avon refinery and associated operations or any material part thereof to a third party until Arco has had a reasonable opportunity to present a higher bid and has failed to do so. Tosco shall have the right to reject, without limitation, all offers received."

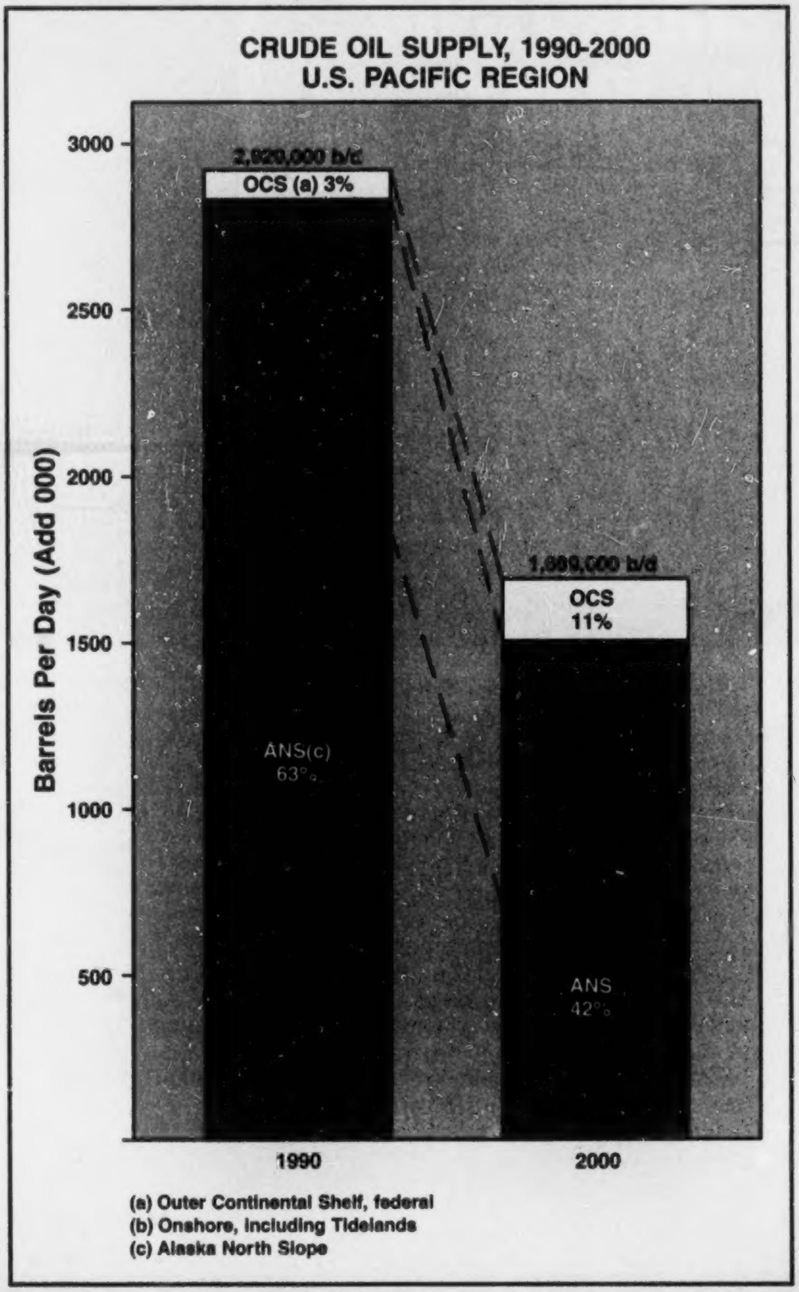
The long-term exchange agreement—crude for gasoline—would still stand, according to the contract. Tosco has the right to assign the exchange to a buyer of the refiner, "subject to Arco's consent, which consent shall not be unreasonably withheld." Tosco can terminate the agreement if Arco unreasonably withholds its consent, whatever that might be.

The term of the contract was 10 years, 1986 to 1996, with two 5-year options exercisable solely by Arco. That would potentially extend the agreement to 2006.

On the assumption that the controlling investors purchased Tosco shares on speculation, not to operate the refinery, there was a strong likelihood that the sale would take place, provided that Tosco was willing to offer the refinery or the company at a price that some other company was willing to pay. That reportedly was a hangup to some.

If negotiations arrived at an acceptable offer, Arco would be given an opportunity to buy the refinery. In fact, it could be that an offer has already been made and accepted by Tosco, in which case, according to terms of the contract, Arco has been informed of all bids and bidders and could be considering making what would have to be the winning offer if it exceeded the bid by $100,000. This premium would be a pittance in a sale that could amount to close to $1-billion.

There would still be a question of whether the California attorney general, Federal Trade Commission, U.S. Justice Dept., or any other agency would permit the sale of the largest independent refinery in the region to a major oil company—any major oil company.



Canadian Retail Gasoline Pump Prices Are Now 60% Higher Than United States

Retail postings for gasoline have been on the upswing for both the United States and Canada, but Canadian pump prices increased at a faster rate last year than in the U.S.

According to the February 1990 Petroleum Product Market Report published by Energy, Mines and Resources Canada (EMR), the typical Canadian motorist paid an average of about $1.73/ (U.S. dollars) for a gallon of gasoline in January 1990. That's about 65/¢ or 60% higher than the price paid per gallon by American motorists in 1989 (see bar chart). The figures represent major city averages for all grades and type of service in both countries.

The spread between Canadian and U.S. pump prices jumped by 12.2¢/gal. last year, with a big chunk of the increase derived from a boost in federal and provincial sales taxes of 2.65¢/gal. and an increase of 3.2¢/gal. in excise taxes for unleaded grade gasolines and 6.4¢/gal. for leaded fuel.

Three-quarters (76%) of the price differential between Canada and the U.S. is attributable to the higher Canadian taxes. Taxes now account for an average of 71.3¢ of every gallon sold.

It was not always thus. In a separate report, "1980s: The Decade In Review," EMR points out that Canadian gasoline prices were actually lower in 1979 than in the U.S. By the end of 1989, however, the average Canandian price exceeded the U.S. prices by 60%, and the gap was the widest of the decade. The major cause: Between 1979 and 1989, Canadian provincial and federal fuel taxes rose almost four times as fast as in the U.S.

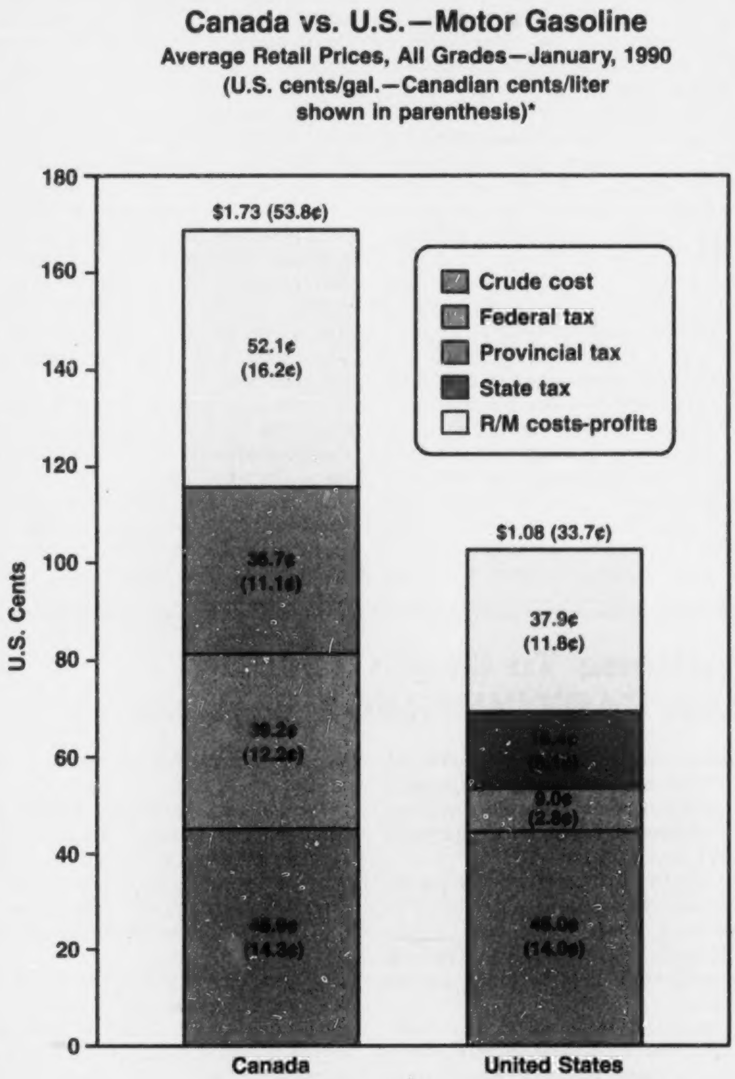
Another interesting comparison between the two countries are the disparities between full and self service prices. In the U.S., the average spread between full and self service is 29¢/gal. In Canada, however, the difference is on 3.2¢/gal. This would help explain why almost 50% of Canadians patronize full service pumps, compared to only 20% in the U.S.

EMR's review of developments in the 1980s showed that the total number of outlets in Canada's 10 major centers declined by only 3.4% during the decade and actually increased by a total of 3% over the last three years. This increase coincided with a growth in gasoline demand during the period.

A major shift has also taken place in the retail outlet market share, EMR reports. While major refiners reduced their outlets by 12% over the 10-year period, independent marketers increased their number of stations by 54%. As a result, the independent's outlet share grew from 13% in 1979 to 20% in 1989.

The self serve outlet population is also growing in Canada, from less than 30% of total outlets in 1979 to 41% in the 10 major centers in 1989. The majors have led the conversion to self service, with over 50% of their outlets in that category. Independent marketers, on the other hand, have been slow to convert and only 18% of their outlets are now self serve.

"One of the marketing strategies often used by independents is to offer full serve gasoline at a price slightly below the self serve price of refiner-branded stations," EMR reports. "Many of the new outlets opened by the independent sector in recent years have offered full service."



*Exchange rate - January 1990 = 1.1714

Survey Indicates Jobbers, Especially Small Ones, Doing Better Than Expected

The death of small jobbers during the industry's traumatic shakeout of the 1980s, widely predicted by some industry experts, didn't materialize. In fact, according to a survey done for *NPN*, the little guys still far outnumber the big ones.

The independent random survey of jobber and convenience store operators who subscribe to *NPN*, done by Com-Sci Systems, Inc., Northfield, Ill., indicates that a large number of the survivors of the 1980s currently sell less than 1-million gal. of gasoline per month. Breaking it down further, a whopping 53.2% sell 500,000 gal. or less.

It must be stated at the outset that *NPN* editors question some of the results of the survey, which is based on 274 questionnaires returned from a mailing of 2,000. The survey indicates, for instance, that an inordinately high number of jobbers sell heating oil.

After working through the data and weeding out questionable material (or identifying any which appears in this article), however, the results are believed to provide a reasonably good representation of the current jobber/C-store market.

(The Editors, by the way, thank all respondents the for the time they took to fill out the lengthy questionnaire used in this survey. Your help and courtesy were valuable and appreciated.)

Little guys hanging in

A total of 263 jobbers and C-store operators returning questionnaires responded to survey questions about their gasoline sales. Of these, 70.3% say their monthly gasoline gallonage is 1-million gal. or less. Some 20.5% say they sell between 1-million and 2.5-million gal./mo., and the relatively small remainder report sales in excess of 2.5-million gal./mo. (see Table 1).

This runs counter to predictions that were being made during the 1980s when the oil refining and marketing industry was undergoing tremendous shrinkage.

At that time, some refiner/supplier executives were saying they couldn't see a place in their distributor networks for wholesale distributors buying below 6-million gal./yr. Some of these executives considered those

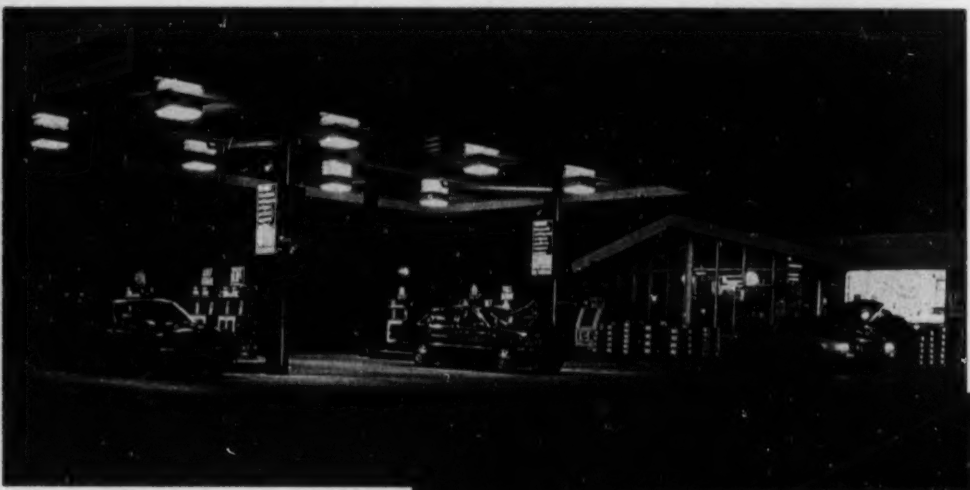
Table 1—Average Monthly Gallonage-1989

GASOLINE		DIESEL	
All Respondents	263 100.0%	All Respondents	258 100.0%
Respondents Doing (Gal./yr.):		Respondents Doing (Gal./yr.):	
Under 500,000	53.2%	Under 500,000	74.0%
500,000-749,999	11.0	500,000-749,999	14.0
750,000-999,999	6.1	750,000-999,999	1.2
1,000,000-1,249,999	8.7	1,000,000-1,249,999	2.7
1,250,000-1,499,999	4.6	1,250,000-1,499,999	2.3
1,500,000-1,999,999	3.8	1,500,000-1,999,999	0.8
2,000,000-2,499,999	3.4	2,000,000-2,499,999	1.2
2,500,000 or more	9.1	2,500,000 or more	3.9

Table 2—Gallonage Projections-Gasoline

1990	Increase	Decrease	Same
All Respondents (259)	46	5	208
(100.0%)	17.8%	1.9%	80.3%
Respondents Doing (Gal./yr.):			
Under 500,000	6.5%	—	93.5%
500,000-749,999	21.4	7.1%	71.4
750,000-999,999	37.5	—	62.5
$1M-$1.24M	63.6	—	36.4
$1.25M-$1.49M	50.0	—	50.0
$1.5M-$1.9M	40.0	—	60.0
$2M-$2.49M	11.1	22.2	66.7
$2.5M and over	—	4.2	95.8

1991	Increase	Decrease	Same
All Respondents (245)	85	5	155
(100.0%)	34.7%	2.0%	63.3%
Respondents Doing (Gal./yr.):			
Under 500,000	16.9%	—	83.1%
500,000-749,999	53.8	7.7%	38.5
750,000-999,999	62.5	6.3	31.3
$1M-$1.24M	81.0	4.8	14.3
$1.25M-$1.49M	72.7	—	27.3
$1.5M-$1.9M	100.0	—	—
$2M-$2.49M	57.1	—	42.9
$2.5M and over	—	4.2	95.8



Gasoline and diesel sales are holding up and for the most part jobbers, including smaller ones, are relatively optimistic about maintaining or increasing those sales in the next few years. Margins aren't bad either, with almost half of the responding jobbers saying they get between 6¢ to 10¢/gal. on gasoline.

distributor customers buying and selling under 12-million gal. annually borderline.

Many of the "little guys," though, are apparently showing the same traditional toughness and tenacity that has helped them survive less chaotic changes than the 1980s brought.

While many did sell out or merge or simply go out of business in the past decade, this survey indicates that small jobbers still comprise the majority of the estimated 14,000 still in business.

And, the way things are now shaping up, it could be that many of those still around have a good chance to survive what promises to be another big shakeout during the 1990s.

The vast majority are believed to be located in small rural areas, away from the larger and highly competitive markets that the majors and large chains are fighting over.

Two current situations seem to favor those small jobbers still in business:

- The contraction of the 1980s has reduced competition in their small markets, providing in some cases for higher profit-margins.
- The gallonage potential, generally speaking, is insufficient to attract either major or chain direct-retail operations.

While they must cope with the high costs of underground storage tank and vapor recovery regulations [*NPN*—Feb. '90 p35], a plus for many is the fact their retail outlets are often debt-free. Some larger but debt-burdened chains, on the other hand, could be hard-pressed to cover such extra costs.

Gallonage projections

The survey showed that a relatively small percentage of total respondents expect their gasoline gallonage to increase in the next few years (see Table 2). Only 17.8% think it will increase this year, while 80.3% expect

Winston — Real Taste

Jobbers are heavily involved in convenience store operations and many expect to expand the number of stores they operate. Sales are generally robust and margins, although they've fallen from the C-store boom years, are still good. More than one-third of the respondents say their margins average between 28-31% and about one-fifth report margins of 24-27%.

it to stay about the same and 1.9% think it will increase. They're a little more optimistic about 1991: 34.7% expect gasoline gallonage to increase, 63.3% expect it to stay the same and 2.0% think it will decrease.

Expectations were different for diesel sales. Of the total respondents, 10.5% expect 1990 (see Table 3) diesel gallonage to increase, 88.3% think it will stay about the same and 1.2% expect it to decline. For 1991, 18.4% think gallonage will increase, 80.3% expect it to stay the same and 1.2% see it decreasing.

Among just the smaller jobbers, 500,000 gal./yr. or less, 93.5% think their gasoline gallonage will stay the same this year, 6.5% see it increasing and none expect it to decrease. Expanding this to jobbers doing less than 1-million gal/yr. (which, of course, includes the above group), about 87% of those who responded to this question expect their gasoline gallonage to stay the same in 1990 and about 11% say it will increase; only a few expect a decrease.

Considering the doom and gloom predicted for the little guys, the fact that such a large percentage expected their gallonage to remain the same might be interpreted to reflect a ray of hope.

For 1991, about one-fourth of small jobbers predict an increase in gasoline gallonage and all but a small percentage of the rest expect it to stay about the same.

Diesel gallonage expectations among these small jobbers: almost 94% expect gallonage to remain the same this year and about 4.5% expect it to increase, with the remainder expecting a decrease. For 1991, about 88% think gallonage will be the same, 11% expect an increase and the rest think it will decrease.

Margins still thin

The survey, however, indicates that on average the small jobber or C-store operator in 1989 didn't fare much better than large ones on gasoline margins (see Table 4).

Of those selling under 1-million gal./mo., 21.9% say their 1989 margins averaged from 5¢ to 5.9¢/gal. By comparison, 20.6% of those doing in excess of 1-million gal. put their margin averages in this range.

Some 49.1% of those in the less than 1-million gal./yr. group say their last year's margins averaged from 6¢ to 9.9¢/gal., while 51.5% of those selling over 1-million gal. say they did this well.

There were a few distributors, both small and large, who report to have had the kind of margins most marketers just dream about.

A total of 23.6% of the under 1-million gal. jobbers and store operators say their

Table 3—Gallonage Projections-Diesel

1990	Increase	Decrease	Same
All Respondents (256)	27	3	226
(100.0%)	10.5%	1.2%	88.3%
Respondents Doing (Gal./yr.):			
Under 500,000	1.5%	—	98.5%
500,000-749,999	6.9	10.3%	82.8
750,000-999,999	26.7	—	73.3
$1M-$1.24M	23.8	—	76.2
$1.25M-$1.49M	27.3	—	72.7
$1.5M-$1.9M	11.1	—	88.9
$2M-$2.49M	25.0	—	75.0
$2.5M and over	29.2	—	70.8

1991	Increase	Decrease	Same
All Respondents (244)	45	3	196
(100.0%)	18.4%	1.2%	80.3%
Respondents Doing (Gal./yr.):			
Under 500,000	7.1%	—	92.9%
500,000-749,999	16.0	8.0%	76.0
750,000-999,999	33.3	—	66.7
$1M-$1.24M	36.8	—	63.2
$1.25M-$1.49M	30.0	—	70.0
$1.5M-$1.9M	33.3	—	66.7
$2M-$2.49M	37.5	—	62.5
$2.5M and over	41.7	—	58.3

Table 4—Average Gross Profits-1989

Gasoline (Cents/Gal.)	5¢-5.9¢	6¢-9.9¢	10¢-14.9¢	15¢+
All Respondents (239)	52	118	59	10
(100.0%)	21.8%	49.4%	24.7%	4.2%
Respondents Doing (Gal./yr.):				
Under 500,000	19.5%	52.3%	25.0%	3.1%
500,000-749,999	25.9	37.0	22.2	14.8
750,000-999,999	35.7	42.9	14.3	7.1
$1M-$1.24M	30.4	52.2	17.4	—
$1.25M-$1.49M	28.6	14.3	42.9	14.3
$1.5M-$1.9M	44.4	11.1	44.4	—
$2M-$2.49M	—	66.7	33.3	—
$2.5M or more	5.0	75.0	20.0	—

C-Store	1-23%	24-27%	28-31%	32-34%	35-40%
All Respondents (145)	28	29	51	17	20
(100.0%)	19.3%	20.0%	35.2%	11.7%	13.8%
Respondents Doing (Gal./yr.):					
Under 500,000	23.0%	19.7%	37.7%	6.6%	13.1%
500,000-749,999	25.0	15.0	30.0	10.0	20.0
750,000-999,999	12.5	—	37.5	37.5	12.5
$1M-$1.24M	16.7	11.1	44.4	11.1	16.7
$1.25M-$1.49M	16.7	50.0	33.3	—	—
$1.5M-$1.9M	14.3	14.3	57.1	14.3	—
$2M-$2.49M	16.7	33.3	16.7	—	33.3
$2.5M or more	11.1	27.8	22.2	27.8	11.1

Table 5—Number of Convenience Stores Operated - 1989

	Number of Stores 1	2-3	4-9	10+
All Respondents (154)	40	38	43	33
(100.0%)	26.0%	24.7%	27.9%	21.4%
Respondents Doing (Gal./yr.):				
Under 500,000	46.0%	34.9%	19.0%	—
500,000-749,999	18.2	27.3	50.0	4.5%
750,000-999,999	33.3	11.1	22.2	33.3
$1M-$1.24M	10.5	21.1	57.9	10.5
$1.25M-$1.49M	14.3	42.9	28.6	14.3
$1.5M-$1.9M	12.5	12.5	12.5	62.5
$2M-$2.49M	—	14.3	28.6	57.1
$2.5M and over	—	—	5.6	94.4

1989 margins ranged from 10¢ to 14.9¢/gal. Another 5.3%, claim average margins of 15¢/gal. or greater. By comparison, 26.5% of the over 1-million gal. marketers say they averaged from 10¢ to 14.9¢/gal. margins. And, believe it or not, one reporting gallonage in the 1.25-million to 1.49-million gal. range claims he averaged 15¢/gal. or greater last year. This would have put this particular distributor's gross margin income ranging between $187,500 and $223,500 a month.

Full-line distributors

Of 267 respondents, most indicate they are full-line distributors, with virtually all selling gasoline and all but 17 selling diesel fuel.

Although some of the data in this section of the survey (which concentrated on the types of products handled by respondents) appeared generally acceptable, some of the results were among those considered questionable. As noted earlier, an abnormally high number (64%) of jobber respondents say they sell heating oil.

In addition, some of the respondents who classified themselves as convenience store operators say they distribute distillates. One possible reason for this surprising result is that some jobbers who are heavily committed to convenience stores identified themselves on the questionnaire as C-store operators instead of as jobbers, which are far more likely to be handling distillates.

This same reasoning would also explain why, in another area, eight distributors who classified themselves as C-store operators claim they supply from one to four truckstops. It would not, however, account for results (not presented in this article) showing some under 1-million gal./mo. distributors supplying from one to four truckstops. Respondents' definition of truckstops would, of course, vary, explaining the anomaly. But a few respondents with gallonage below 500,000 gal./mo. who say they are supplying from one to four truckstops would have to be supplying some real dogs.

C-store involvement

It's no secret that many jobbers are now heavily involved in convenience stores. The survey shows that about 26% of the 154 respondents to this section operated one store in 1989, 24.7% had two or three stores, 27.9% had four to nine stores and 21.4% had 10 or more stores (see Table 5).

Among just the jobbers in the less than 1-million gal./mo. group, about 38% operate one store, about 30% have two or three stores, 26% have four to nine stores and the rest report having 10 or more stores.

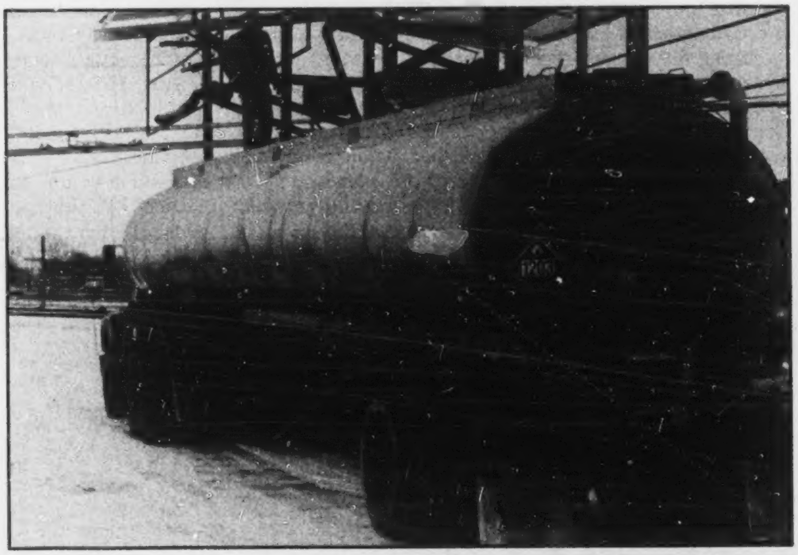
Looking ahead (see Table 6), 52% of all the respondents expect the number of C-stores they operate this year to increase, 30%

NPN Top-Rated By Readers

The independent random survey included a reader opinion poll. The results were quite positive. Nearly 98.7% of the respondents say NPN is "valuable" or "very valuable" to them. Only the remaining 1.3% thought it had little value (Who are those guys?). None of the other seven magazines included in the survey came even close to that value ranking.

Readers found *NPN*'s news, regional columns and green pages of most interest. About 80% say they read the news section with high interest and more than 76% say they read the regional columns with high interest. "Ahead of the News" and the Trends page both fell into the high interest category with more than 85% of the respondents.

Feature articles scored well. Jobber case history articles were read with high interest by nearly 79.4% and marketing/management articles by 81.8%. Features on operations and equipment didn't do as well, although the 68.2% high interest ranking they got is respectable. Most of the back-of-the-book columnists have high interest to roughly 50% or more of our readers.



The survey indicates that a surprisingly large number of marketers own and operate at least some of the trucks they use in their business.

Table 6—Number of C-Store Projections

1990	Expect Increase	Expect Decrease	Expect Same
All Respondents (171)	89	31	51
(100.0%)	52.0%	18.1%	29.8%
Respondents Doing (Gal./yr.):			
Under 500,000	32.4%	17.6%	50.0%
500,000-749,999	38.1	38.1	23.8
750,000-999,999	60.0	40.0	—
$1M-$1.24M	70.0	15.0	15.0
$1.25M-$1.49M	77.8	11.1	11.1
$1.5M-$1.9M	88.9	—	11.1
$2M-$2.49M	71.4	14.3	14.3
$2.5M or more	78.9	5.3	15.8

1991	Expect Increase	Expect Decrease	Expect Same
All Respondents (168)	128	39	1
(100.0%)	76.2%	23.2%	0.6%
Respondents Doing (Gal./yr.):			
Under 500,000	67.6%	32.4%	—
500,000-749,999	86.4	13.6	—
750,000-999,999	60.0	40.0	—
$1M-$1.24M	94.1	5.9	—
$1.25M-$1.49M	77.8	22.2	—
$1.5M-$1.9M	77.8	22.2	—
$2M-$2.49M	75.0	25.0	—
$2.5M and over	88.9	5.6	5.6

expect the number of stores to stay the same and about 18% expect the number to decrease. Expectations for 1991 were a different story: About 76% predict increasing the number of stores, but 23% expect to decrease the number of stores and the remainder expect to remain the same.

Among the less than 1-million gal/mo. jobbers, roughly 36% expect to increase the number of C-stores this year, about 40% say the number will stay the same and the remainder expect to decrease the number. For 1991, about 70% say they will increase the number of stores and the remainder expect to decrease the number.

Overall, sales and margins at C-stores looked reasonably good (see Tables 4 and 7). Of the 158 jobbers and C-store operators responding to the questions about C-store sales, the vast majority (70.3%), say monthly sales total $20,000 or more per month.

Of all respondents, 38.9% expect C-stores sales to increase this year, 58.3 see sales remaining steady and the rest foresee a decrease (see Table 8). For 1991, expectations are pretty evenly split between those who expect higher sales and those who expect sales to remain the same: 48.5% in each group. The remaining 3% expect a decrease.

For jobbers in the under 500,000 gal./mo. group the expectations were about the same as for the total respondents. But for those in the 500,000 to 749,000 gal./mo. category, the differences are notable. A total of 71.4% expect C-store sales to increase this year, 14.3% expect them to stay the same and 14.3% expect them to decrease. Among the 750,000 to 999,999 gal./mo. jobbers, 66.7% expect higher store sales and the rest think sales will remain the same. None expect a decrease.

For 1991, a similar pattern emerges. Some 66.7% of respondents in the 500,000 to 749,000 gal./mo. group say they expect an increase in C-store sales, 16.7% expect sales to decrease and 16.7% expect them to stay the same.

Among those in the 750,000 to 999,999 gal./mo. group, 66.7% expect an increase in 1991 and 33.3 expect sales to stay the same. (The majority of larger jobbers did not respond to this question.)

Margins on these sales appears good (see Table 4). Of the 145 respondents to this question, 19.3% report an average gross profit margin of 1-23%; 20% report average gross margins between 24-27%; 35.2% put it at 28-31%; 11.7% say 32-34%; and 13.8% say 35-40%. Here again, smaller jobbers did pretty well, with margins generally in line with or better than the averages of total respondents.

Truck ownership

Some 84.1% out of 246 respondents to this question say they operate a fleet of trucks (see Table 9).

A surprising result from this part of the survey was the number of small jobbers who say they still operate transport trucks. More than 80% of the smaller jobbers say they do. A big percentage of larger distributors, as might be expected, operate their own fleet.

Since they often service farm and com-

Table 7—Total Monthly C-Store Sales-1989

	Under $4,000	$4,000-$5,999	$6,000-$7,999	$8,000-$9,999	$10,000-$11,999	$12,000-$13,999	$14,000-$15,999	$16,000-$17,999	$18,000-$19,999	$20,000 or more
All Respondents (158)	10	6	2	5	7	3	7	3	4	111
(100.0%)	6.3%	3.8%	1.3%	3.2%	4.4%	1.9%	4.4%	1.9%	2.5%	70.3%
Respondents Doing (Gal./yr.):										
Under 500,000	10.8%	6.2%	1.5%	4.6%	7.7%	1.5%	7.7%	1.5%	3.1%	55.4%
500,000-749,999	9.1	4.5	4.5	9.1	—	4.5	4.5	4.5	4.5	54.5
750,000-999,999	11.1	—	—	—	11.1	—	11.1	11.1	—	55.6
$1M-$1.24M	—	5.3	—	—	—	—	—	—	5.3	89.5
$1.25M-$1.49M	—	—	—	—	—	—	—	—	—	100.0
$1.5M-$1.9M	—	—	—	—	12.5	—	—	—	—	87.5
$2M-$2.49M	—	—	—	—	—	—	—	—	—	100.0
$2.5M or more	—	—	—	—	—	5.0	—	—	—	95.0

Table 8—C-Store Sales Volume Projections

1990	Expect Increase	Expect Decrease	Expect Same
All Respondents (36)	14	1	21
(100.0%)	38.9%	2.8%	58.3%
Respondents Doing (Gal./yr.):			
Under 500,000	30.4%	—	69.6%
500,000-749,999	71.4	14.3	14.3
750,000-999,999	66.7	—	33.3
$1M-$1.24M	—	—	100.0
$1.25M-$1.49M	—	—	—
$1.5M-$1.9M	—	—	100.0
$2M-$2.49M	—	—	—
$2.5M or more	—	—	100.0

1991	Expect Increase	Expect Decrease	Expect Same
All Respondents (33)	16	1	16
(100.0%)	48.5%	3.0%	48.5%
Respondents Doing (Gal./yr.):			
Under 500,000	47.6%	—	52.4%
500,000-749,999	66.7	16.7	16.7
750,000-999,999	66.7	—	33.3
$1M-$1.24M	—	—	100.0
$1.25M-$1.49M	—	—	—
$1.5M-$1.9M	—	—	100.0
$2M-$2.49M	—	—	—
$2.5M and over	—	—	100.0

mercial customers, the typical small jobber operates two or more "bobtail" or tank delivery trucks. More than half of the respondents selling 500,000 gal. or less gasoline say they operate from two to three such vehicles.

Most of the respondents, 62.4% say they expect the number of trucks they operate to remain the same this year. However, a total of 26.3% say they expect to increase the number and 11.2% will decrease it.

Retail outlets

Many larger jobbers and most majors say that only high-volume (at least 100,000 gal. or more) retail outlets are viable nowadays. A majority of the smaller jobbers indicate they have units that pump such gallonage but some don't (see Table 10).

Out of 77 reporting total gasoline volume of under 500,000 gal./mo., 57.1% say they supply from one to four retail outlets. This would indicate, if most of their gasoline moves through these outlets, that these units average 125,000 gal. or better.

Another 28.6% of the 77 say they supply from five to nine outlets. For one doing 500,000 gal., this would put his per-unit average ranging from 55,556 gal. to 100,000 gal.

Some 7.8% of the 500,000 gal. and under respondents, however, report supplying from 10 to 14 outlets; 5.2% say they supply from 15 to 25; and one respondent from 26 to 40.

Of those who report total gallonage from 500,000 to 749,000 gal., 55.6% claimed to move this volume through from only one to four outlets, indicating some healthy per-unit average volumes.

In the larger distributor class, 23.5% doing in excess of 2.5-million gal./mo. claim they are moving this volume through just one to four outlets. That would put his per-unit volume over 1-million gal., and is another of those questionable areas of the survey.

Owner-operated

The small jobber's strength shows up again when it comes to owning or controlling their gasoline retail outlets (see Table 10).

Of those doing under 500,000 gal./mo., 81.8% say they own or control from one to four retail outlets. Another 15.2% say they own or control between five and nine, and 3% in excess of 10 units.

Some sources point to such ownership and/or control as the small distributor's primary strength. Typically, one might be located in a less-competitive market and has his retail outlets paid for. Except, that is, for what he now may have to spend to meet environmental requirements.

Similar patterns develop regarding ownership of truckstops, C-stores selling gasoline and gasoline outlets with car washes.

Pruning time?

Most industry experts are predicting another dramatic shrinkage in the number of retail outlets as the high costs of "cleaning

Table 9—Truck Ownership

Who Owns Trucks	Yes	No
Total Respondents (246)	207	39
(100.0%)	84.1%	15.9%
Respondents Doing:		
Under 500,000	82.8%	17.2%
500,000-749,999	84.6	15.4
750,000-999,999	81.3	18.8
$1M-$1.24M	85.7	14.3
$1.25M-$1.49M	81.8	18.2
$1.5M-$1.9M	80.0	20.0
$2M-$2.49M	100.0	—
$2.5M or more	82.6	17.4

Types of Trucks Operated	Tank Trucks	Light Trucks/ Service Vehicles	Tank Trailers	Truck Tractors
All Respondents (206)	186	161	133	131
(100.0%)	90.3%	78.2%	64.6%	63.6%
Respondents Doing:				
Under 500,000	93.0%	73.0%	48.0%	50.0%
500,000-749,999	90.9	81.8	86.4	81.8
750,000-999,999	92.3	76.9	92.3	84.6
$1M-$1.24M	88.9	77.8	88.9	66.7
$1.25M-$1.49M	100.0	100.0	66.7	55.6
$1.5M-$1.9M	87.5	100.0	100.0	100.0
$2M-$2.49M	77.8	77.8	88.9	88.9
$2.5M or more	78.9	78.9	73.7	84.2

Table 10—Gasoline Outlets - 1989

	Supplied Number of Outlets						
	1-4	5-9	10-14	15-25	26-40	41-60	61+
All Respondents (163)	72	35	18	18	9	5	6
(100.0%)	44.2%	21.5%	11.0%	11.0%	5.5%	3.1%	3.7%
Respondents Doing:							
Under 500,000	57.1%	28.6%	7.8%	5.2%	1.3%	—	—
500,000-749,999	55.6	16.7	11.1	11.1	5.6	—	—
750,000-999,999	25.0	33.3	16.7	16.7	—	8.3	—
$1M-$1.24M	46.7	6.7	13.3	26.7	6.7	—	—
$1.25M-$1.49M	—	12.5	12.5	25.0	37.5	12.5	—
$1.5M-$1.9M	28.6	42.9	28.6	—	—	—	—
$2M-$2.49M	14.3	—	14.3	—	42.9	14.3	14.3
$2.5M or more	23.5	—	11.8	23.5	—	11.8	29.4
	Own or Control Number of Outlets						
All Respondents (131)	83	25	10	6	2	3	2
(100.0%)	63.4%	19.1%	7.6%	4.6%	1.5%	2.3%	1.5%
Respondents Doing:							
Under 500,000	81.8%	15.2%	1.5%	1.5%	—	—	—
500,000-749,999	62.5	12.5	12.5	12.5	—	—	—
750,000-999,999	36.4	36.4	27.3	—	—	—	—
$1M-$1.24M	61.5	23.1	15.4	—	—	—	—
$1.25M-$1.49M	28.6	42.9	—	14.3	14.3	—	—
$1.5M-$1.9M	66.7	33.3	—	—	—	—	—
$2M-$2.49M	20.0	—	20.0	40.0	20.0	—	—
$2.5M or more	35.3	17.6	11.8	5.9	—	17.6	11.8

up" units to comply with environmental regulations impact.

In this survey, however, 44.1% of the respondents say they expect to increase their number of controlled outlets in 1990; 43.3% say they will remain about the same; and only 12.6% anticipate a decrease (see Table 11).

Jobbers in the under 500,000 gal./mo. group are less optimistic, but more (about half) of those doing 500,000 to 999,000 expect to increase their outlets and fewer (about one-third) anticipate having about the same number of outlets.

Looking to 1991, 50.9% say they anticipate increasing their number of outlets while only 7.1% expect to decrease them. The other 42% expect their numbers to remain about the same (see Table 11). Again the 500,000 gal./mo. group was less optimistic than the overall average. More of those doing 500,000 to 999,999 gal/mo. think they will increase the number of controlled outlets and fewer expect the number to stay about the same. But more of the respondents in this category anticipate a decrease in the number of controlled outlets.

This certainly runs counter to most thinking nowadays but perhaps those looking forward to increases consider themselves strong enough to pick up units others have to sell. **N:N**

Table 11—Number of Outlet Projections

	1990 Number of Outlets		
	Increase	Decrease	Same
All Respondents (247)	109	31	107
(100.0%)	44.1%	12.6%	43.3%
Respondents Doing:			
Under 500,000	25.8%	13.3%	60.9%
500,000-749,999	51.9	14.8	33.3
750,000-999,999	50.0	18.8	31.3
$1M-$1.24M	69.6	8.7	21.7
$1.25M-$1.49M	40.0	20.0	40.0
$1.5M-$1.9M	100.0	—	—
$2M-$2.49M	55.6	22.2	22.2
$2.5M or more	81.8	—	18.2
	1991 Number of Outlets		
	Increase	Decrease	Same
All Respondents (226)	115	16	95
(100.0%)	50.9%	7.1%	42.0%
Respondents Doing:			
Under 500,000	31.6%	7.7%	60.7%
500,000-749,999	60.0	12.0	28.0
750,000-999,999	57.1	14.3	28.6
$1M-$1.24M	78.9	5.3	15.8
$1.25M-$1.49M	70.0	—	30.0
$1.5M-$1.9M	100.0	—	—
$2M-$2.49M	66.7	11.1	22.2
$2.5M or more	81.8	—	18.2

Why OPEC Seems Destined To Get Stronger And Richer

So long as gasoline and diesel fuel continue to hold forth as the world's prime fuel of mobility, the Organization of Petroleum Exporting Countries (OPEC) seems predestined to grow stronger and richer in the years that lie immediately ahead—almost like a poker player who rarely loses no matter how poorly he plays.

A full-blown cartel of 13 nations, OPEC currently controls three-fourths of the world's liquid oil reserves and about one-third of the world's oil production while virtually all of the other Big Leaguers like the U.S.S.R., the United States, Canada and Mexico are in a declining format.

Just about every forecast in town agrees that OPEC is looking at a very bright future in the late '90s and early 2000s. There seems to be no question that OPEC, whose public image and tactical skills leave much to be desired, will dominate reserves and production indefinitely and, while not being a big wheel in refining now, is aiming to be a big time player in tomorrow's product markets which could be just as bountiful for them as crude oil.

The numbers vary, depending on the root sources, but they agree in substance that by the year 2000 the OPEC states will be accounting for more than half of the world's supply. U.S. dependency on oil imports from all foreign supplies is expected to be in the 65% range. Price forecasts vary too—as high as $50 bbl. for foreign by 2010—but the more likely probability is $25-$30 bbl. Currently they are in the $20 bbl. range, up $6 bbl. from the 1986 shakeout.

Fly in the ointment

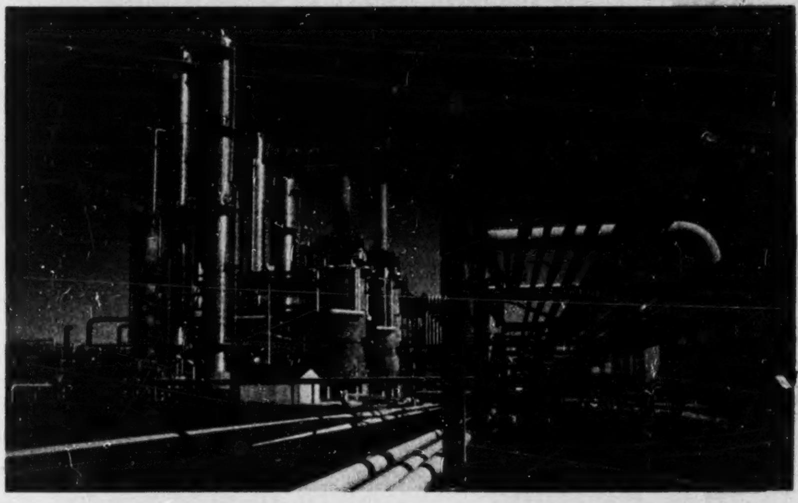
There's a Catch 22 in all this, of course. This sort of unrestrained optimism and happy-happy forecasting implies that petroleum products will continue to be the fuels of mobility into the foreseeable future, just as they have been since the late 1890s.

There are no guarantees that this will happen, however. The oil companies and the car makers are running scared these days for the first time in their lives. The federal government, the environmentalists and the public in general are coalescing their efforts to clean up and preserve the nation's water and land resources, air, woodlands and wildlife, its marine assets and just about everything and anything that needs protection to survive and to guarantee its future.

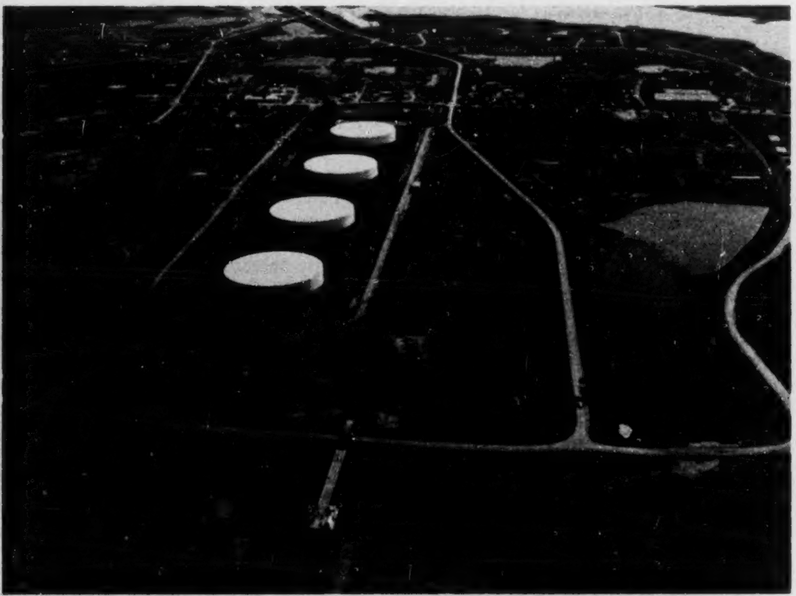
Throughout most of the 20th century, the oil companies tinkered with their gasoline formulas and car makers toyed with engine overhauls and sophisticated electronics, the

By J. Richard Shaner
Executive Editor

Growing demand and falling U.S. production have increased the need for imported crude, strenghtening OPEC's position. By the year 2000 the OPEC states could account for more than half of the world's supply. U.S. dependency on oil imports from all foreign supplies is expected to be in the 65% range. Price forecasts vary—as high as $50 bbl. for foreign by 2010—but the more likely probability is $25-$30 bbl.



Although the OPEC countries are not heavily involved in the refining end of the business at this time, there is little doubt they plan to be a major factor eventually.



To shield the U.S. against the traumas of a sudden shortage or complete cutoff, the Strategic Petroleum Reserve was established. Millions of barrels of foreign crude oil, purchased at reasonable prices, are stored at various sites such as this one in the Southwest. Current reserves are in the area of 580-million bbl. The target, 750-million bbl., is expected to be reached later this decade.

idea being to make both fuels and motors cleaner, unquestionably more powerful and generally more socially acceptable in complementing each other's progress. Substantially, however, there has been no really major changes in engines and gasolines since the 1900s when it all started.

Suddenly, in the late '80s, the apathy of the past was shattered as oil companies and car makers alike realized that for the first time in history their patty cake responses of the past were inadequate and that alternate fuels and new engines were going to happen, like it or not.

The idea of reformulated fuels, methanol straight or laced, cars powered with natural gas and batteries scared the pants off them. There were serious questions about gasoline's future and the need for far-reaching actions to preserve its marketplaces.

President George Bush's call for 1-million new types of cars and fuels in the marketplace by 1995 prompted the creation of a joint oil and car committee that will most likely spend from $15-million to $50-million over the next four to five years to study all sorts of fuel mixtures and vehicles with no holds barred. And perhaps save their hides in the passing.

All this casts a long shadow of sorts over OPEC's future. What good, for example, are billions of barrels of crude oil reserves and production schedules if gasoline and diesel fuel lose their preeminence in the mobility business and distillates and residual wallow in the same despair?

Birthday for OPEC

OPEC will be 30 years old next November. That's a substantial achievement in its own right because the cartel started out in loose-knit fashion in 1960 and has never succeeded in really getting its act together. It lacks unanimity and coherence in what it is trying to do. It is a fractious, contentious confederation whose members often play fast and loose with production allocations, for example, to preserve and protect their own needs.

Twice a year, the OPEC members meet in Rome or Geneva or some other exotic place to discuss and set production quotas that ostensibly would support a desired level of marketplace prices.

As a matter of fact, it doesn't really matter whether these meetings were held or not. Some members, like Iran and Iraq, simply turn their backs on their allocation schedules as soon as they get home again and produce as much as they can sell, generally at discounted prices. Currently, the OPEC members are exceeding their production quotas by 1.5-million to 2-million b/d, even though all signed the basic agreement. These excesses usually have a dampening effect on crude oil and product prices around the world.

Two unplanned incidents gave the OPEC members a hint of the strength they could muster and use—in the early '70s and just about a decade ago. In the '70s, the Arab OPEC members refused to do business with countries that supported Israel. That made a mishmash out of the global market places and caused prices to rise sharply. Again, in the late '70s, when Iran and Iraq went to war, supplies and prices reacted crazily with crude climbing up $35 bbl. to $40 bbl. and almost bankrupting many hard-pressed

U.S. Imports Are Rising Steadily

Last summer, U.S. dependency on oil imports from all countries, not just the OPEC states, broke the 50% barrier for the first time. The expectancy is that by 2000, this reliance figure will have passed 60% and will be still on an upward roll toward 66% in the years that follow. Most of tomorrow's increases will come from OPEC states.

The July import figure was 9.1-million b/d, or 54% of the nation's consumption.

A recent American Petroleum Institute study made this observation:

"Although U.S. oil import dependency is rising steadily, Americans appear relatively unconcerned about their future energy security.

"Apparently Americans believe that cheap oil and easy solutions to the oil import problem are available: a mixture of greater conservation and further development of solar, biomass and other environmentally benign fuels.

"But hard facts show that these 'solutions' are neither cheap nor just around the corner. The coming decade, as a result, is shaping up as a clash between hard facts and false hope.

"The political, economic and social repercussions could be enormous," the study notes.

API President Charles J. DiBona recently told a Congressional committee:

"A careful look at the facts suggests that even if extremely aggressive conservation policies are adopted, sustained economic growth will require additional energy supply. Further, there are clear limits as to how much aggregate energy consumption can be reduced—unless the nation is willing to have massive government intervention and endure high cost in lost economic growth."

OPEC's Topography, Demographics Fascinating

The membership making up the modern Organization of Petroleum Exporting Countries (OPEC) is about as diverse as any organization could ever want or need. Five of the Arab states are in the Middle East and the other two are in North Africa. Two of the non-Arab states are in South America. The distances between the farthest states are about 10,000 miles. The population densities range from six per square mile (Libya) to 322 per square mile (Nigeria). The countries range in size from 4,000 sq. miles (Qatar) to 918,000 sq. miles (Algeria). Qatar's size is about equivalent to Connecticut, Nigeria is about three Texas'. By way of comparison, the United States has a population of about 250-million and a population density of about 68 per square mile.

Here's a highlight summary of the principal characteristics of all the OPEC nations:

	Geo. Loc.	Acreage (sq.m.) (000)	About Size Of	Population Total (mil.)	Population About Equal To	Population Density (sq.m.)
			Arab/OPEC			
Saudi Arabia	Mid-East	840	1/3 U.S.	12.7	Fla.	15
Iraq	Mid-East	168	Calif.	17.6	N.Y.	104
Kuwait	Mid-East	7	N.J.	2.0	W.Va.	285
United Arab Em.	Mid-East	32	Maine	1.5	N.M.	45
Libya	N. Afr.	679	Alaska	4.3	Minn.	6
Algeria	N. Afr.	918	3 Texas	25.1	Calif.	27
Qatar	Mid-East	4	Conn.	0.3	Wyo.	80
			Non-Arab/OPEC			
Iran	Mid-East	636	Alaska	51.0	2 Calif.	80
Venezuela	S. Amer.	352	2 Calif.	19.2	N.Y.	54
Nigeria	W. Afr.	357	2 Calif.	115.2	4 Calif.	322
Indonesia	SE. Asia	735	Alaska	187.7	6 Calif.	255
Ecuador	S. Amer.	109	Colo.	10.5	Ohio	95
Gabon	E. Afr.	103	Colo.	1.1	Hawaii	11

OPEC Imports: Who Gets And How Much

(Add 000 bbl.)

	Crude Oil	Products	Total
PAD 1*	435,747	544,485	980,232
Arab/OPEC	75,701	44,352	120,053
Non-Arab/OPEC	177,905	121,937	299,842
Total OPEC	253,606	166,289	419,895

OPEC share of PAD 1's total imports: 42.8%.
Principal sources of supply: Nigeria, Saudi Arabia, Venezuela and Virgin Islands.
(*) PAD 1 includes Maine, New Hampshire, Vermont, Massachusetts, Connecticut, Rhode Island, New York, New Jersey, Pennsylvania, Delaware, Maryland, West Virginia, North and South Carolina, Georgia and Florida.

	Crude Oil	Products	Total
PAD 2*	379,592	42,144	421,736
Arab/OPEC	70,642	0	70,642
Non-Arab/OPEC	80,520	49	80,569
Total OPEC	151,162	49	151,211

OPEC's share of PAD 2's total imports: 35.9%.
Principal sources of supply: Canada, Nigeria, Saudi Arabia.
(*) PAD 2 includes North and South Dakota, Nebraska, Kansas, Oklahoma, Minnesota, Iowa, Missouri, Wisconsin, Illinois, Michigan, Indiana, Ohio, Kentucky and Tennessee.

(Chart continued on page 49)

countries in the process. In the U.S. refiner acquisition costs for imported crude peaked at $37 bbl. in 1981. Those were the days of gasoline lines at every station that was open, with motorists willing to pay $1.50 to $2 gal. just to get enough fuel—any kind of fuel—to stay alive. An ironic offshoot of this was that brand names and values lost much of their appeal and allegiance for many motorists.

Hard numbers vary

As might be expected, it's next to impossible to assign hard numbers and values to the reserves and production slates of the OPEC members.

Take Saudi Arabia, for instance. The figures used in the sidebar box entitled "The OPEC: A Baker's Dozen of Oil Exporters" are from federal government manuals and are considered reasonably accurate. A private newsletter with an exceptional reputation for the accuracy of its OPEC and Middle East statistics credits Saudi Arabia with 252-billion bbl. of reserves. That's 82-billion bbl. more than the federal government's estimate of 170-billion bbl. The newsletter says Saudi Arabia has 128 years of output at current rates while the federal government says 90 years is a more likely period.

Similarly, Iran and Iraq only a few years ago were each said to have around 35-billion to 40-billion bbl. of reserves. Now both are credited with 100-billion bbls.

Saudi Arabia's oil minister, Hisham M. Nazer, is one of the many OPEC authorities who look to the future with great optimism.

What's happening, he said in New York recently, is that the international petroleum business is shifting over from a buyer's to a seller's market.

He anticipates a 20% increase in oil demand in the '90s and a 3.2% increase in the world's economic growth.

No crisis: Saudi minister

The Saudi Arabia minister expressed doubt that there would be any kind of an oil crisis in the '90s. At the same time, he was reluctant to make any price projections, saying, "We do not think higher prices will sustain economic growth" and that conversely "lower prices would not maintain the proper stability in the producer countries."

Saudi Arabia, the biggest of the OPEC countries, has already made a deep incursion into gasoline marketing in the U.S. His company now owns 50% of Texaco's marketing and refining network in 23 Eastern states. Venezuela, another OPEC biggie, now owns 100% of Citgo Petroleum which has a refinery in Louisiana and supply contracts

(Continued from page 48)

OPEC Imports: Who Gets And How Much

(Add 000bbl.)

	Crude Oil	Products	Total
PAD 3*	1,191,279	176,652	1,367,931
Arab/OPEC	496,581	74,314	570,895
Non-Arab/OPEC	264,123	25,081	289,204
Total OPEC	760,704	99,395	860,099

OPEC's share of PAD's total imports: 62.9%.
Principal sources of supply: Kuwait, Saudi Arabia, Nigeria, Venezuela and Mexico.
(*) PAD 3 includes Alabama, Arkansas, Louisiana, Texas and New Mexico.

	Crude Oil	Products	Total
PAD 4*	22,161	4,103	26,974
Arab/OPEC	0	0	0
Non-Arab/OPEC	0	0	0
Total OPEC	0	0	0

OPEC's share of PAD's total imports: 0%.
(*) PAD 4 includes Montana, Idaho, Wyoming, Utah and Colorado.

	Crude Oil	Products	Total
PAD 5*	96,230	27,967	124,197
Arab/OPEC	507	2,065	2,572
Non-Arab/OPEC	43,871	6,585	50,456
Total OPEC	44,378	8,650	53,028

OPEC's share of PAD's total imports: 42.7%.
Principal sources of supply: Indonesia, Canada, Australia and Republic of China.
(*) PAD 5 includes Arizona, Nevada, California, Oregon, Washington, Alaska and Hawaii.

The OPEC: A Baker's Dozen Of Oil Exporters

Country	Crude Oil Reserves (bil. bbls.)	(000 b/d)	Only Production (mil. bbl./yr.)	Years Of Output Based On Current Data
		Arab/OPEC		
Saudi Arabia	170	5,148	1,879	90
Iraq	100	2,822	1,030	97
Kuwait	93	1,802	658	141
United Arab Emirs.	93	1,959	715	130
Libya	22	1,096	400	55
Algeria	8	1,100	402	20
Qatar	3	391	143	21
		Non-Arab/OPEC		
Iran	93	2,883	1,045	89
Venezuela	58	1,883	687	84
Nigeria	16	1,669	616	26
Indonesia	8	1,374	502	16
Ecuador	1	NA	NA	NA
Gabon	0.6	NA	NA	NA
Totals				
Arab/OPEC	489	14,318	5,228	94
Non-Arab/OPEC	177	7,809	2,850	62
Total OPEC	666	22,127	8,078	83

Total World Reserves	907,788 bil. bbls.
Percentage Arab/OPEC	53.8%
Percentage Total OPEC	73.0%
Total World Production	59,537 b/d
Percentage Arab/OPEC	24.0%
Percentage Non-Arab/OPEC	14.0%
Percentage Total OPEC	38.0%

for more than 6,000 outlets.

Where OPEC came from

In the '30s and '40s, American and British oil companies dominated exploration and production in the Middle East and elsewhere, paying the countries in almost sharecropper fashion for the oil that was produced and shipped out to their own refineries.

In the '40s and '50s, most of the countries nationalized their oil properties and literally reversed the process. They became the owners and the oil companies were, in effect, given sharecropper status.

The various nations discovered quickly that they could learn much from each other and so began the loose confederation which eventually led to the birth of the Organization of Petroleum Exporting Countries (OPEC) on Nov. 14, 1960.

In the '60s, bickering, lying and cheating were commonplace within the swaddling OPEC, hampering its ability to achieve growth, stability and recognition.

The '70s and '80s were kind to OPEC members, giving the organization a market wallop and some control over its global production and price schedules despite the nonstop self-indulgences and petty chiseling by various members.

U.S. looks ahead

Meantime, the U.S. Dept. of Energy is slowly insulating the country against the traumas of 1986, when the bottom dropped out of the world marketplaces, international supplies were disrupted and some crude prices declined to $8 bbl.

The U.S. set up its Strategic Petroleum Reserve project in which millions of barrels of foreign crude oil would be purchased at reasonable prices and stored in huge caverns in the Southwest. A month or so ago, the reserves topped 580-million bbl. The target, 750-million bbl., is expected to be reached later this decade. The reserves are not intended as price barriers but as hedges against disruptions as occurred in the early '70s and the worst of the Iraqi-Iran war period of 1978-'81.

As was said at the onset of this article, however, the key to OPEC's future lies not in international politics but in the world's physical requirements for gasoline and diesel oil as the primary fuels of mobility. So long as there is no major change here, i.e., a replacement of gasoline and fuel oil by other nonliquid petroleum products, OPEC's future seems assured as the world's owner and supplier of the stuff that makes the world go, go, go...

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Editor's Viewpoint

Like a bad penny, the idea of raising gasoline taxes to cut the deficit keeps turning up. Most recently, it was proposed as part of the latest deficit reduction plan by none other than Dan Rostenkowski (D-Ill.).

You'll recall that Rostenkowski was an architect of the tax revision plan which ended the tax deduction for IRA's, one of the few tax breaks for the average person. That tax revision also lowered individual income tax rates as a trade off to eliminate most other tax deductions for average taxpayers except for mortgage interest. Not a bad idea in itself. But the ink was hardly dry on the new tax law before "Rosty" was hinting that the lowered rates might have to be raised. Voters, however, didn't buy that ruse, so there's always a search for other taxes to raise—like the gasoline tax.

It's unfair to single out Rostenkowski. He's not alone. But he's representative of legislators with a particular mind set. It doesn't seem to matter to them that most Americans oppose higher gasoline taxes. Nor does it matter that federal and most state gasoline taxes are supposed to be earmarked for building and maintaining roads and bridges and highways.

They seem equally unconcerned that it is a regressive tax, one that's felt most by people in fixed income or low income groups. They're not bothered that it also has a disproportionate regional impact: gasoline consumption in southern and western states is higher than in other areas so motorists in these states pay a higher portion of the "deficit reduction" tax. The same is true of rural areas, where more gasoline is consumed than by people in cities. In addition, government and private studies have shown that increasing the gasoline tax would lower GNP, raise unemployment and boost inflation. Meanwhile, jobbers and others in the oil industry pay a price, not so much in money, but because they're associated with high gasoline prices. I'm always amazed how few people realize how much of the price they pay for gasoline is federal, state and local taxes.

The good news is politicians who think this way are feeling a lonely. The Highway Users Federation, for instance, reports that not only are more than two-thirds of Americans against higher gasoline taxes, but last year over 230 members of the House of Representatives opposed using gasoline taxes to cut the deficit and the Senate also opposed it in its 1990 budget legislation. Rostenkowski's proposal this year didn't do much better. At last report, it hadn't received rave reviews and according PMAA had gone from the bang to "the whimper stage" with little chance of being adopted. The real question now is how long it will take for lawmakers like Rostenkowski to get into the mainstream and away from the atrophied ideas of the past.

—Frank M. Victoria

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New Mexico's hotly-competitive retail gasoline market is now under scrutiny by the state's district attorney. One intriguing question: Why are retail prices as much as 25¢/gal. higher in Santa Fe than nearby Albuquerque?

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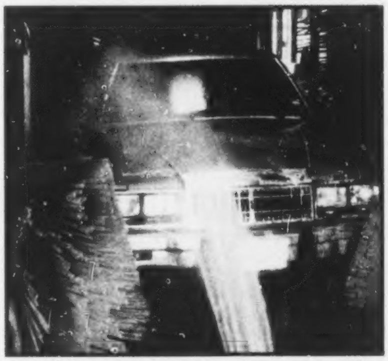

Growing concern over water conservation and detergent/chemical disposal has sparked interest—and debate—in water reclaim systems for car washes.

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Hiring, training and holding onto good employees is a major challenge for today's marketers, made more difficult by a shrinking work force, new technology and declining work ethic.

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Feds Target, Crack Down On Octane Rating Cheats

Gasoline tax cheats, and others guilty more of sloppy marketing practices than anything else, stand accused by the federal government of chiseling on the octane quality of their motor fuels. Motorists, it was claimed, are being bilked as much as $600-million a year in their retail fuel purchases.

A study by the General Accounting Office contends that 9% of gasoline sold is being shortchanged by at least a half octane number. In Michigan, it was alleged, 52% of the samples tested were off about two points—the difference between unleaded regular and unleaded midgrade. The GAO said octane-short sales are so common that some retailers often sell regular grades as premium fuels.

Industry reaction was swift. The American Petroleum Institute, Society of Independent Gasoline Marketers of America and Petroleum Marketers Assn. of America said they were "extremely disturbed" by the GAO report and if the integrity of the labeling systems is intentionally violated, the perpetrators should be prosecuted. The three associations said they are willing to cooperate with the EPA and Federal Trade Commission as well as state governments to insure the integrity and accuracy of the system.

PMAA's Phillip Chisholm said, "The great majority of petroleum distributors and service station operators in this country are honest, hard-working people. They are largely family-owned businesses and they have close ties to their communities and to the customers they serve. They strongly oppose the illegal actions of a few unscrupulous individuals who engage in illegal practices and, in the process, damage the reputation of the many thousands of legitimate marketers."

It must be noted, however, that the GAO report said illegal sales were spotted in more than half the states, and 9% of U.S. gasoline sales equal roughly 10-billion gal.—indicating there are more than only "a few unscrupulous individuals."

The GAO report indicated that the opportunity for mislabeling appears to be greatest in the distributor and retail levels and that it occurs far less frequently in the 22 states which have octane-testing programs. A provision in the federal government's petroleum marketing laws deals with gasoline mislabeling, but that hasn't been enforced since 1981 due to a lack of funding.

The GAO report pointed out that in Michigan, one of the states without its own testing program, stations that were checked had octane levels about two points below what was posted on the pump.

States that do not have their own testing programs—and therefore can be considered more vulnerable to such octane cheating—are these: Alaska, Arizona, Connecticut, Hawaii, Idaho, Indiana, Kansas, Kentucky, Ohio, Maine, Michigan, Minnesota, Mississippi, Montana, Nebraska, Nevada, New Hampshire, New Jersey, New York, Oregon, Pennsylvania, Rhode Island, Texas, Utah, Vermont, West Virginia, Washington and Wyoming.

Wide-Ranging Results In First Quarter Earnings

The old Wall Street phrase "mixed bag" is a good description of corporate and downstream earnings of the top oil companies in the first quarter this year.

Percentage-wise, the earnings and losses ranged from 243.8% (Murphy) for the high side and 82% drop (Amerada Hess) for the low side. On a dollar-for-dollar basis, however, the perspective is different. Murphy's 243.8% increase, for example, involved $16-million while Hess's loss equaled $180-million. Here are two more examples: Texaco's minus sign meant $1.1-billion while Exxon's erosion equaled $530-million.

Here's a traditional bird's eye view of the numbers:

First Quarter 1990

UPSTREAM

(Add 000)

Company	1st. Qtr. 1990	1st. Qtr. 1989	% Chng.
Exxon	$1,280.0	$1,810.0	(29.2%)
Mobil	400.0	429.0	(6.8)
Chevron	473.0	313.0	51.1
Amoco	466.0	458.0	1.7
Shell	203.0	362.0	(43.9)
Texaco	328.0	1,460.0	(77.5)
BP-America (a)	732.0	569.0	28.6
Arco	547.0	704.0	(22.3)
Phillips	259.0	190.0	36.3
Conoco	197.0	217.0	(9.2)
Unocal	77.0	87.0	(11.5)
Marathon *	242.0	241.0	0.4
Sun	71.0	81.0	(12.3)
Coastal	75.6	60.4	25.2
Amerada Hess	39.7	220.2	(82.0)
Pennzoil	33.7	52.5	(37.7)
Ashland **	913.0	(13.8)	–
Kerr-McGee	27.1	63.9	(57.6)
American Petrofina	26.2	48.7	(46.2)
Murphy	22.0	6.4	243.8
Citgo *	46.3	48.8	(5.1)
Diamond Shamrock	4.3	14.9	(71.1)

* Operating income, not net; ** Second quarter and first half, fiscal ends 9/30; first half totaled $22.5-million vs. $82.1-million, a decrease of 72%.

(a) BP/London is reorganizing its reporting procedures and from now on will include BP-America in its BP-Group, USA Segment, rather than as a national company.

DOWNSTREAM

(Add 000)

Company	1st. Qtr 1990	1st. Qtr. 1989	% Chng.
Chevron	130	50	160
Domestic	59	7	743
Foreign	71	43	65
Exxon	191	171	9
Domestic	(28)	37	–
Foreign	219	138	59
Mobil	92	109	(17)
Domestic	39	69	(43)
Foreign	53	40	13
Amoco	111	114	(3)
Shell	(21)	113	–
Texaco	136	137	–
Domestic	30	37	(19)
Foreign	106	100	6
BP-America	NA	NA	NA
Conoco	81	71	14
Marathon	77	66	16
Sun	29	79	(63)
Domestic	25	67	(63)
Foreign	4	12	67

• TRENDS

Reformulated Gasolines: A Solution Or A Problem?

Reformulated gasolines—some not so reformulated—are springing up all over, stirring up gasoline competition and sending some oil companies back to refinery drawing boards. Reformulated gasolines are also laying the foundations for possible future public backlash and other serious complications. Reformulated gasolines could, in fact, create more problems than they solve.

In quick succession from last September until this May, seven oil companies introduced reformulated gasolines: Arco, Diamond Shamrock, Phillips, Marathon, Conoco, Shell and Exxon. More were surely on the way.

Some of the new gasolines, such as Arco's EC-1, are considerably changed from typical formulations, with lower amounts of aromatics, olefins, benzene, sulfur, butane and addition of oxygenates, usually methyl tertiary butyl ether (MTBE). But some aren't much changed, such as Exxon's, which in almost all cases simply has lower reid vapor pressure (RVP).

These products have been generally greeted favorably by the public, lawmakers and environmental officials, who feel it is a step in the right direction, though not a total solution to air pollution. All oil companies, including those who have introduced reformulated gasolines, accept that these products are interim steps.

Apparently exercising restraint, some companies are deliberately avoiding the claim of "reformulation," even though they are making certain changes in their gasolines. An example is Amoco, which is voluntarily lowering RVP requirements in Chicago and some Midwest areas without any mention of reformulation.

Some companies, such as Unocal, have decided to make no gasoline changes pending the outcome of fuel and engine research being conducted jointly by 14 oil companies and the three major U.S. car manufacturers. Preliminary results are expected later this year and further results over the next three years.

With newly tailored gasolines rolling out in greater quantities and over broader areas, the inability of refineries to make big changes is resulting in minimal reformulations. This is causing concern in some oil circles that reformulated gasoline might lose public confidence. Some fear that if people get the impression they're being bamboozled, there could be a serious backlash against oil companies and the new gasolines.

Reformulated gasolines are an attempt to head off alternative fuels, at least for now. The fear is that a backlash may not only set the public against gasoline but also prompt punitive legislation, forcing alternative fuels into the market even faster than planned.

There was further concern of backlash if some of the worst gasoline pollutants removed from reformulations were discovered to be turning up in other gasolines and other areas: aromatics, olefins and benzene, for example. Surplus butane found other markets as lower gasoline volatility (RVP) was ordered in some areas.

On the economic side, reformulated gasolines cost more to make. Manufacturing enough ultra-clean reformulated gasoline to market widely would cost many billions of dollars in refinery improvements—one estimate is $100-billion. Reformulated gasolines in many cases cease to be fungible, that is, not meet generic industry standards, which would limit or eliminate the opportunity for exchanges with other oil companies, and it could not be shipped by pipeline, forcing the use of more expensive means of transportation.

If environmental agencies demand cleaner fuel than gasoline, or if reformulated gasolines get too expensive or complicated to make and market, or if motorists turn against reformulated gasoline, alternative fuels could come on faster than almost anyone has anticipated.

Perhaps most importantly, a stern economic fact confronts all oil refiners: How much are they willing to spend on reformulated gasoline before beginning to invest seriously in alternative fuels?

—Mark Emond

• MARKETPLACE AT A GLANCE

AVERAGE GASOLINE PRICES IN THE U.S. (per gal.)

March	Gasoline (All types)	Leaded Regular	Unleaded Regular	Unleaded Premium
U.S. City Avg.	$1.076	$0.999	$1.023	$1.218
REGIONS				
Northeast	1.104	1.088	1.023	1.242
North Central	1.061	1.006	1.017	1.266
South	1.080	1.015	1.023	1.193
West	1.059	0.989	1.032	1.232

Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

STOCKS (Add 000 bbl.)

	5/4/90	5/5/89
Gasoline (Total)	219,223	222,644
Gasoline (Unleaded)*	168,070	155,813
Jet Kerosine	41,094	38,141
Distillates	96,909	95,763
Residual	43,436	39,872

**Included in gasoline total.*

Source: American Petroleum Institute.

CORRECTION: In our May issue, typesetting errors were present in the statistical tables printed with the article (beginning on page 38) reporting on the results of our jobber survey. Responses were broken out by *monthly gallonage*. However, the tables showed this as *gallons per year (Gal./yr.)*. Also, dollar signs were in front of some of the gallonage figures in the tables, indicating they were monetary measurements instead of gallonage measurements.

All but the first table included these errors. Following is one of the tables as it appeared and then a corrected version of that table. Note that in the corrected table the line reading "Respondents Doing (Gal./yr)" should be "Respondents Doing (Gal./mo.)," and that the dollar signs have been removed to show that they are gallonage figures and not monetary figures. These corrections apply to all of the tables in the article except the first one, which was printed correctly.

(Incorrect)

Table 4—Average Gross Profits-1989

Gasoline (Cents/Gal.)	5¢-5.9¢	6¢-9.9¢	10¢-14.9¢	15¢+
All Respondents (239)	52	118	59	10
(100.0%)	21.8%	49.4%	24.7%	4.2%
Respondents Doing (Gal./yr.):				
Under 500,000	19.5%	52.3%	25.0%	3.1%
500,000-749,999	25.9	37.0	22.2	14.8
750,000-999,999	35.7	42.9	14.3	7.1
$1M-$1.24M	30.4	52.2	17.4	—
$1.25M-$1.49M	28.6	14.3	42.9	14.3
$1.5M-$1.9M	44.4	11.1	44.4	—
$2M-$2.49M	—	66.7	33.3	—
$2.5M or more	5.0	75.0	20.0	—

C-Store	1-23%	24-27%	28-31%	32-34%	35-40%
All Respondents (145)	28	29	51	17	20
(100.0%)	19.3%	20.0%	35.2%	11.7%	13.8%
Respondents Doing (Gal./yr.):					
Under 500,000	23.0%	19.7%	37.7%	6.6%	13.1%
500,000-749.999	25.0	15.0	30.0	10.0	20.0
750,000-999,999	12.5	—	37.5	37.5	12.5
$1M-$1.24M	16.7	11.1	44.4	11.1	16.7
$1.25M-$1.49M	16.7	50.0	33.3	—	—
$1.5M-$1.9M	14.3	14.3	57.1	14.3	—
$2M-$2.49M	16.7	33.3	16.7	—	33.3
$2.5M or more	11.1	27.8	22.2	27.8	11.1

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1.5M-1.9M	44.4	11.1	44.4	—
2M-2.49M	—	66.7	33.3	—
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1.25M-1.49M	16.7	50.0	33.3	—	—
1.5M-1.9M	14.3	14.3	57.1	14.3	—
2M-2.49M	16.7	33.3	16.7	—	33.3
2.5M or more	11.1	27.8	22.2	27.8	11.1

AOP Notes

Pennzoil Co. announces the following promotions: **David Alderson**, treasurer, was named senior vice president, finance and treasurer; **Terry Hemeyer**, vice president, public affairs, was named senior vice president, administration; **Mark Malinski**, corporate secretary, was named senior vice president, accounting and controller; and **James W. Shaddix**, assistant general counsel, was named general counsel. All four will report to **James L. Pate**, who was elected executive vice president and CEO, responsible for all operating divisions and corporate functions of Pennzoil Co and its subsidiaries and affiliates. Pate, a 14-year Pennzoil veteran, has served in the positions of vice president and chief economist, treasurer, and senior vice president of finance. In 1974, he served as President Ford's Assistant Secretary of Commerce, and subsequently was appointed a special advisor to the White House.

J. Don Langston, formerly vice president of exploration for Exxon U.S.A., has been appointed chairman of the board of Fairbanks & Haas, Inc., an independent oil and natural gas company headquartered in Ventura, Calif. Langston will play an active role in the analysis and selection of potential drilling projects for the company.

Terrance R. Weaver has been named vice president of marketing operations, west zone, for Amoco Oil Co., succeeding **R.D. McMullen** who retired. In his new position, Weaver will manage and direct Amoco's marketing operations in 15 states. During Weaver's 20-year career with Amoco, he served as manager of reseller/jobber light oils, manager of Amoco's Ft. Lauderdale, Fla., marketing district, business manager of light oils for Amoco Oil's marketing department and most recently as manager of Amoco's Mandan, N.D., refinery.

O & E People

Greg Campbell has been appointed customer service manager for Universal Valve Co., Inc., responsible for operations, management, distributor promotion and regional manager communications. Previously Campbell served as sales and promotion manager for a major Northeastern daily newspaper.

Manny Carter was appointed vice president in charge of the petroleum business unit for MPSI Inc., responsible for all activities worldwide including client relations, international marketing, new products and planning petroleum activities. Prior to joining MPSI, Carter was general manager of international marketing for Mobil Oil Corp.

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Looking Things Over

The NPN Factbook is mainly about numbers. And numbers, sometimes, can be as dry as dinosaur bones. With careful and persistent study, however, they can stretch our awareness and knowledge of what's happening—and what's not happening—in this complex industry in which we all make our living.

Sometimes the numbers can be misleading. For years, the numbers have been telling us that foreign firms have been grabbing up U.S. petroleum assets—downstream and upstream—at a dizzying pace; from $15.2-billion in 1981 to $35.6-billion in foreign direct investments by 1987. In some quarters (mostly non-industry sources), these growing numbers were viewed with alarm.

Most industry analysts believed this growth in FDIs in U.S. petroleum would continue unabated. Last year, in fact, our Factbook editors joined this chorus and projected a final FDI growth of about 6% to around $37.5-billion in 1988. Imagine our surprise, then, when the new Energy Information Administration report surfaced this year showing a net decline in FDIs of almost $1-billion (See page 33). Are foreign firms losing interest in the U.S. oil industry. Not hardly. But the pace of FDI growth appears to be slowing and will probably continue at a more moderate rate in the years ahead. At any rate, we're getting out of the forecast business in this area.

One startling piece of data reported in this year's Factbook is the "unprecedented" plunge of 77% in overall convenience store profits, as detailed by the National Assn. of Convenience Stores; this despite record industry revenues (See page 141). As we can see now, the big reason for this drop was the financial drubbings experienced by major players in the field—notably Southland and Circle K. More interesting still, smaller companies (under 200 stores) were four times more profitable than the bigs.

I think there's a lesson in those numbers: Smaller operators—C-store and petroleum—are frequently getting better results and making more money, comparatively, than their larger counterparts. It appears that innovation, sensible operating and financial procedures, plus a good feel for their local markets are providing the big payoff for these smaller marketers.

—Donald M. Smith

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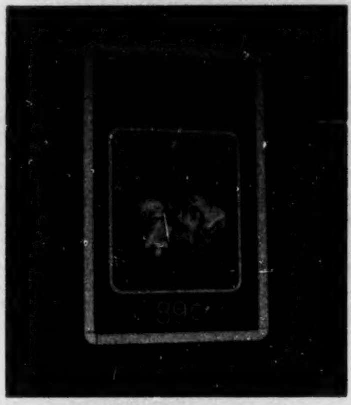

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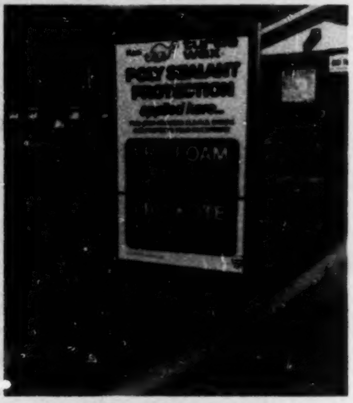

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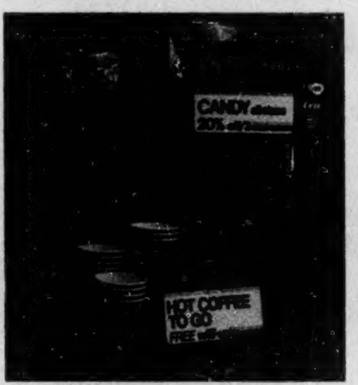

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Ranking The Top 22 Marketing Companies

	Total Assets		Gross Revenues		Net Income		Sales Ranking Among Top 500 (a)	
	1989	1988	1989	1988	1989	1988	1989	1988
Exxon	1	1	1	1	1	1	3	3
Mobil	2	2	2	2	5	2	6	6
Chevron	3	3	4	4	12	4	11	11
Amoco	4	4	5	5	6	3	12	12
Shell	5	5	6	6	8	9	13	13
Texaco	6	6	3	3	2	8	10	8
Arco	7	8	7	7	4	6	22	17
BP-America	8	7	8	8	3	5	NR	22
Phillips	9	9	9	10	13	10	30	31
Conoco	10	10	10	9	10	13	NR	NR
Unocal	11	11	12	11	11	12	40	47
Marathon	12	12	13	13	9	11	NR	NR
Coastal	13	14	11	15	15	16	54	54
Sun	14	13	15	12	19	21	46	46
Amerada Hess	15	15	16	16	17	18	89	110
Pennzoil	16	16	19	20	7	7	163	201
Ashland	17	17	14	14	20	14	58	55
Kerr-McGee	18	18	17	18	18	19	144	157
Murphy	19	20	22	21	21	20	241	253
American Petrofina	20	19	18	19	16	17	148	164
Citgo	21	21	20	17	14	15	105	NR
Diamond Shamrock	22	22	21	22	22	22	206	244

(a) As ranked by Fortune 500, April 1990. NR—not ranked by Fortune 500.

10 Oil Marketers Fatten Their Corporate Structures in 1989

If assets are to be considered the prime criteria for glory, almost half of the nation's top oil marketers can look back on 1989 and say it really wasn't such a bad year after all.

There are 22 oil companies in this elite group and 10 of them saw their assets grow to record highs in the calendar year that ended last Dec. 31.

Exxon led the parade with a 12% increase in its corporate assets, from $74.3-billion in 1988 to $83.2-billion in 1989. That $9-billion growth difference is more than most second tier oil companies are worth in their entireties alone (see chart on next page).

Mobil, Chevron, Amoco, Shell and Texaco ranked second, third, fourth, fifth and sixth in the standings. None had any growth increases comparable to Exxon's 12%, however. Mobil and Chevron had increases of less than 1% while Amoco and Shell were in the 1.6% area. This was, for the record, Exxon's sixth consecutive year of increases in its total assets.

Biggest percentage increases in 1989 were Murphy Oil (33.0%); Amerada Hess (27.8%) and Citgo (18.2%). Those percentage relationships are deceiving, however. For example, a 33% growth to Murphy is roughly $700-million to $800-million; a 12% increase to Exxon is $9-billion, as noted above.

The 10 oil marketers who posted new highs in assets in 1989 were Exxon, Amoco, Shell, Coastal, Amerada Hess, Pennzoil, Ashland, American Petrofina, Citgo and Diamond Shamrock.

The others—Mobil, Chevron, Texaco, BP-America,

(Continued on next page)

Oil Company Rankings by Marketers With

(In billions of dollars)
Assets (a)

	1989	1988	1987	1986	1985
Exxon	**$83,219**	$74,293	$74,042	$69,484	$69,160
Mobil	39,080	38,820	40,272	39,412	41,752
Chevron	33,884	33,968	34,101	34,853	38,889
Amoco	**30,430**	29,919	25,122	27,706	25,196
Shell	**27,599**	27,169	27,571	26,214	26,528
Texaco	25,636	26,337	33,773	34,940	37,703
Arco	22,161	**25,514**	22,890	21,604	20,279
BP-America	20,438	22,452	**22,807**	20,169	18,330
Phillips	11,256	11,968	12,111	12,403	14,045
Conoco	10,392	9,745	9,146	9,073	**14,116**
Unocal	9,257	9,508	10,062	10,246	**10,797**
Marathon	9,246	8,968	9,091	**11,022**	10,074
Coastal	**8,773**	7,865	7,889	7,887	8,258
Sun	8,659	8,616	12,580	12,396	**12,923**
Amerada Hess	**6,867**	5,372	5,305	4,914	6,219
Pennzoil	**4,882**	4,860	2,805	3,369	3,300
Ashland	**4,456**	4,254	4,074	3,805	3,926
Kerr-McGee	3,232	3,123	3,132	3,090	3,702
Murphy	2,750	2,068	2,067	1,980	2,661
American Petrofina	2,506	2,356	1,836	1,777	1,817
Citgo	1,587	1,343	1,191	1,209	1,274
Diamond Shamrock (*)	1,027	843	—	—	—

(a) Boldface type indicates peak years of individual companies;

(Asset Values, continued)

Arco, Phillips, Conoco, Unocal, Marathon, Sun, Kerr-McGee and Murphy—have to look to the past for their peak years of assets.

Mobil, Chevron, Texaco and Phillips, for example, set their highs in 1984. For Conoco, Unocal and Sun, it was the year after. Marathon peaked in 1986, BP-America in 1987 and Arco in 1988.

The '80s have been rough on some companies. Phillips, victimized by a take-over attempt by a Texas raider, is only half the size it was in 1984. Texaco, which lost a bundle to Pennzoil in a historic legal case and almost foundered as a result, is down 47% from its 1984 high. Sun, mostly by choice, is also about one-half the size of its old self. Chevron and Conoco likewise have reduced their corporate structures by one-third.

Diamond Shamrock was a new addition to the NPN compilations in 1989. The listing takes into consideration only those oil marketers who have assets of $1-billion or more.

Prior to 1987 Diamond Shamrock was a fully integrated oil company with production, refining, marketing and transportation. In January 1987 it established two separate companies—upstream and downstream. Diamond Shamrock Marketing and Refining had assets of $843-million in 1988 and $1.0-billion in 1989.

A company's asset value, of course, does not provide a complete picture of its current financial status. A comparison of these asset tables with the oil companies' annual report information for 1989 (See page 18) indicates that a company's changing asset base does not always go hand in hand with that company's financial performance in a given year.

A wrong turn by the Exxon Valdez oil tanker, for example, had a greater impact in 1989 on that company's financial profile than its $9-billion increase in total assets (although that could change in future years, of course). For 1989, Exxon's earnings were a third below the profit achieved the year before. Diamond Shamrock's 22% increase in assets was offset by a 48% decline in earnings.

Murphy's 33% gain in assets, on the other hand, was accompanied by a 12% increase in revenues and a 20% increase in profits over 1988.

Assets of $1-Billion or More

	% Change				Ranking by Year				
1984	'89 vs. '88	'88 vs. '87	'87 vs. '86	'86 vs. '85	1989	1988	1987	1986	1985
$63,278	12.0%	0.3%	6.6%	0.5%	1	1	1	1	1
41,851	0.7	(3.6)	2.2	(5.6)	2	2	2	2	2
45,404	0.1	(0.4)	(2.2)	(10.4)	3	3	3	4	4
25,734	1.7	19.1	6.0	(5.9)	4	4	6	6	6
23,729	1.6	(1.5)	5.2	(1.2)	5	5	5	5	5
37,774	2.7	(22.0)	(3.3)	(7.3)	6	6	4	3	3
21,952	0.4	(6.0)	6.0	6.5	7	8	7	7	8
17,487	3.0	1.6	13.1	10.0	8	6	4	3	3
16,955	(5.9)	(1.2)	(2.4)	(11.7)	9	9	11	11	11
13,497	6.2	6.5	(29.6)	(35.7)	10	10	13	10	10
10,206	(2.0)	(5.5)	(1.8)	(5.1)	11	11	12	14	13
9,949	3.1	(1.4)	(17.5)	9.4	12	12	14	13	14
3,925	11.4	(1.6)	1.3	(4.5)	13	14	15	15	15
12,789	1.0	(31.5)	1.5	(4.1)	14	13	10	12	12
6,353	27.8	1.3	8.0	(21.0)	15	15	16	16	16
3,243	—	59.7	(16.7)	2.1	16	16	19	19	19
4,037	4.8	4.4	7.1	(3.1)	17	17	17	17	18
3,771	6.7	(0.3)	1.4	(16.5)	18	18	18	20	21
2,685	33.0	0.0	4.4	(25.6)	19	20	20	21	20
1,706	6.3	28.3	3.3	(2.2)	20	19	21	22	22
1,246	18.2	12.6	(1.5)	(5.1)	21	21	22	23	23
—	21.8	—	—	—	22	22	—	—	—

(*) Diamond Shamrock was split into two companies—upstream and downstream in April 1987. These are the totals for the new Diamond Shamrock Refining and Marketing Co.

Assets—Peak Years vs. 1989

		(in billions of dollars)		
	Peak Year	Peak Year Total	1989	% Chng. '89 vs. Peak
Exxon	1989	$83,219	$83,219	0.0%
Mobil	1984	41,851	39,080	(7.1)
Chevron	1984	45,404	33,884	(34.0)
Amoco	1989	30,430	30,430	0.0
Shell	1989	27,599	27,599	0.0
Texaco	1984	37,774	25,636	(47.3)
BP-America	1987	22,807	20,438	(11.6)
Arco	1983	23,282	22,161	(5.1)
Phillips	1984	16,955	11,256	(50.1)
Conoco	1985	14,155	10,392	(35.8)

		(in billions of dollars)		
	Peak Year	Peak Year Total	1989	% Chng. '89 vs. Peak
Unocal	1985	$10,797	$9,257	(16.6%)
Marathon	1986	11,022	9,246	(19.2)
Sun	1985	12,296	8,699	(48.6)
Coastal	1989	8,773	8,773	0.0
Amerada Hess	1989	6,867	6,867	0.0
Pennzoil	1989	4,882	4,882	0.0
Ashland (*)	1989	4,456	4,456	0.0
Kerr-McGee	1983	3,806	3,332	(14.2)
American Petrofina	1989	2,505	2,505	0.0
Murphy	1982	2,990	2,750	(8.7)
Citgo	1981	6,049	1,587	(a)
Diamond Shamrock	1989	1,027	1,027	0.0

(a) Not comparable. The old Cities Service Co. was a different company entirely.
* Fiscal year ending 9/30/89.

Oil Company 1989 Annual Reports

Financial

	Gross Sales-Operating Revenues (add 000)			Net Income (add 000)			Net Income % of Gross Sales	
	1989	1988	% Change	1989	1988	% Change	1989	1988
Amerada Hess Corp.	$5,679,327	$4,263,544	33.2%	$476,349	$124,217	28.4%		
American Petrofina	3,036,386	2,634,706	15.2	119,143	132,900	(10.4)	3.9	5.0
Amoco Corp.	23,966,000	21,150,000	13.3	1,610,000	2,063,000	(22.0)	6.7	9.7
Ashland Oil, Inc.	7,990,000	7,753,000	3.1	86,205	223,944	(61.5)	1.1	2.9
Atlantic Richfield Co.	15,351,000	17,626,000	(12.9)	1,953,000	1,583,000	23.4	12.7	9.0
BP America	17,668,000	15,411,000	14.6	2,041,000	1,673,000	22.0	14.2	10.9
Chevron Corp.	29,443,000	25,196,000	16.9	251,000	1,768,000	(85.8)	0.9	7.0
Citgo Petroleum Corp.	4,941,185	4,109,679	20.2	163,013	165,635	(1.6)	3.3	4.0
Coastal Corp.	8,271,000	7,674,000	10.1	170,100	157,400	8.1	2.1	2.1
Conoco, Inc.	12,314,000	10,995,000	12.0	538,000	391,000	37.6	4.4	3.6
Diamond Shamrock Corp.	2,090,865	1,803,892	15.9	28,051	53,514	(47.6)	1.3	3.0
Exxon Corp.	96,300,000	88,600,000	8.7	3,510,000	5,260,000	(33.3)	3.6	5.9
Getty Petroleum Corp.*	1,183,744	1,040,755	13.7	22,987	28,418	(19.1)	1.9	2.7
Marathon Oil Corp.	12,264,000	9,900,000	23.9	987,000	475,000	107.8	8.0	4.8
Mobil Oil Corp.	56,188,000	54,361,000	3.4	1,809,000	2,087,000	(13.3)	3.2	3.8
Murphy Oil Corp.	1,652,598	1,473,598	12.1	46,551	38,752	20.1	2.7**	1.8**
Phillips Petroleum Corp.	12,384,000	11,304,000	9.6	219,000	650,000	(66.3)	1.8	5.8
Shell Oil Corp.	21,948,000	21,399,000	2.5	1,405,000	1,239,000	13.4	6.4	5.8
Sun Co., Inc.	11,168,000	9,744,000	14.6	98,000	7,000	769.2	0.9	0.1
Texaco Inc.	35,656,000	35,138,000	1.5	2,413,000	1,304,000	85.0	6.8	3.7
Unocal Corp.	10,056,000	8,910,000	12.9	260,000	480,000	(45.8)	2.6	5.4

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*Fiscal year is Jan. 31, 1989-Jan. 1, 1990

**Income before minority interest as a percent of gross sales

Operating

	Net Crude Production b/d				Refinery Crude Runs b/d				Domestic Refined Product Sales b/d	
	Domestic		Foreign		Domestic		Foreign			
	1989	1988	1989	1988	1989	1988	1989	1988	1989	1988
Amerada Hess Corp.	60,992	60,782	79,250	72,630	397,000	296,000	—	—	470,000	379,000
American Petrofina	22,378	17,318	—	—	57,158	72,517	92,583	80,205	234,406	220,484
Amoco Corp.	390,000	409,000	425,000	400,000	896,000	882,000	64,000	62,000	1,001,000	953,000
Ashland Oil, Inc.	2,084	2,366	33,540	30,922	125,304	147,579	178,915	173,090	304,219	320,869
Atlantic Richfield Co.	660,000	674,200	70,100	63,600	413,100	397,800	—	—	435,500	418,800
BP America	784,400	857,500	4,300	4,200	717,000	629,000	—	—	898,100	811,700
Chevron Corp.	482,000	484,000	467,000	486,000	1,403,000	1,407,000	490,000	500,000	1,469,000	1,451,000
Citgo Petroleum Corp.	—	—	—	—	71,640	68,111	209,981	197,042	517,000	493,000
Coastal Corp.	9,385	10,240	—	—	238,000	266,000	—	—	766,800	742,200
Conoco, Inc.	112,000	105,000	285,000	302,000	373,000	164,000	381,000	219,000	451,000	502,000
Diamond Shamrock Corp.	—	—	—	—	129,990	133,603	28,546	22,689	179,661	175,523
Exxon Corp.	693,000	760,000	1,008,000	1,046,000	999,000	968,000	2,300,000	2,074,000	1,147,000	1,113,000
Getty Petroleum Corp.*	—	—	—	—	—	—	—	—	—	—
Marathon Oil Corp.	143,100	154,100	65,100	69,500	554,000	469,800	—	—	665,500	559,100
Mobil Oil Corp.	315,000	329,000	399,000	361,000	772,000	650,000	1,035,000	1,003,000	939,000	927,000
Murphy Oil Corp.	14,902	15,554	29,150	32,150	96,687	92,704	25,594	23,711	103,671	98,885
Phillips Petroleum Corp.	254,000	284,000	128,000	124,000	465,000	501,000	—	—	535,000	540,000
Shell Oil Corp.	427,000	463,000	81,000	68,000	990,000	999,000	—	—	1,207,000	1,314,000
Sun Co., Inc.	—	104,300	59,600	51,900	561,200	472,000	68,900	61,000	655,100	596,700
Texaco Inc.	480,000	524,000	353,000	466,000	619,000	907,000	737,000	970,000	809,000	1,026,000
Unocal Corp.	161,000	166,000	92,000	91,000	352,000	408,000	—	—	523,000	520,000

Quarterly and Full-Year Earnings—1989 vs. 1988

(Add 000,000)

	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	Full Year 1989	Full Year 1988	% Change
Exxon	$1,270.0	$160.0	$1,110.0	$485.0	$3,510.0	$5,260.0	(33.3%)
Mobil	429.0	401.0	532.0	447.0	1,809.0	2,087.0	(13.3)
Chevron	313.0	404.0	417.0	(883.0)	251.0	1,768.0	(85.8)
Amoco	458.0	497.0	336.0	319.0	1,610.0	2,063.0	(22.0)
Shell	362.0	440.0	340.0	264.0	1,405.0	1,239.0	13.4
Texaco	1,455.0	366.0	305.0	287.0	2,413.0	1,304	85.0
BP-America	NA	631.0	NA	NA	NA	NA	NA
Arco	704.0	467.0	379.0	403.0	1,953.0	1,583.0	23.4
Phillips	190.0	197.0	87.0	(225.0)	(219.0)	650.0	—
Conoco	217.0	115.0	98.0	108.0	538.0	391.0	37.6
Unocal	87.0	120.0	79.0	(26.0)	260.0	480.0	(45.8)
Marathon*	241.0	257.0	198.0	166.0	862.0	506.0	70.1
Sun	81.0	105.0	85.0	(173.0)	98.0	7.0	1,300.0
Coastal	NA	35.3	3.0	71.4	NA	157.4	NA
Amerada Hess	220.2	133.5	51.8	70.8	476.3	124.3	283.2
Pennzoil	52.5	118.0	35.4	(60.0)	146.0	1,475.4	(90.1)
Ashland**	13.8	43.5	(39.4)	22.0	—	—	—
Kerr-McGee	63.9	34.7	20.1	37.2	156.0	110.0	41.8
American Petrofina	48.8	41.8	15.1	13.5	119.0	132.9	(10.4)
Murphy	6.4	16.8	2.5	21.0	46.6	38.8	20.1
Citgo	36.6	39.2	28.6	NA	NA	NA	NA
Diamond Shamrock	NA	—	—	(23.8)	28.1	53.5	(47.5)

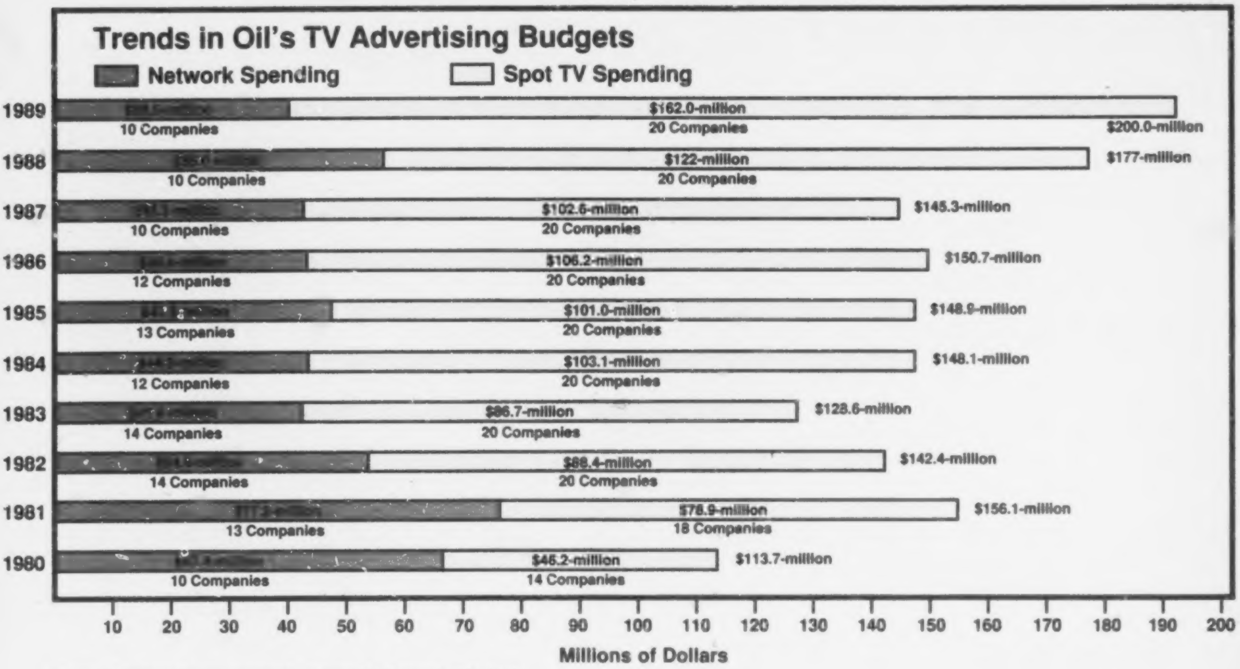
*Operating profits after taxes

**Fiscal year ends 9/30/89

Downstream Earnings in 1989 Reflect Environmental, Related Costs

(Add 000,000)

	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	Full Year 1989	Full Year 1988	% Change
Exxon	$147.0	$232.0	$357.0	$341.0	$1,098.0	$1,812.0	(39)
domestic	40.0	99.0	128.0	114.0	370.0	672.0	(45)
foreign	107.0	133.0	229.0	227.0	729.0	1,140.0	(36)
Mobil	125.0	100.0	383.0	123.0	731.0	1,006.0	(27)
domestic	76.0	111.0	88.0	72.0	347.0	553.0	(37)
foreign	49.0	(11.0)	295.0	51.0	384.0	453.0	(15)
Chevron	50.0	166.0	189.0	(271.0)	134.0	622.0	(79)
domestic	7.0	103.0	130.0	(322.0)	(82.0)	571.0	—
foreign	43.0	63.0	59.0	51.0	216.0	51.0	324.0
Texaco	126.0	208.0	180.0	(42.0)	471.0	1,134.0	(59)
domestic	34.0	80.0	76.0	(111.0)	78.0	663.0	(88)
foreign	92.0	128.0	104.0	69.0	393.0	471.0	(17)
Amoco (worldwide)	114.0	213.0	134.0	187.0	648.0	897.0	(28)
Shell	113.0	132.0	106.0	10.0	361.0	519.0	(27)
BP-America	—	188.0	NA	NA	NA	NA	NA
Arco	742.0	91.0	119.0	64.0	291.0	368.0	(21)
Phillips	51.0	62.0	48.0	15.0	176.0	312.0	(43)
Conoco	71.0	—	78.0	62.0	303.0	331.0	(9)
Sun	67.0	72.0	73.0	7.0	212.0	227.0	(65)
Marathon*	66.0	169.0	112.0	58.0	405.0	488.0	(17)


Trends in Oil's TV Advertising Budgets

Source: Television Bureau of Advertising and NPN Factbook 1981-1989.

Network TV Spending

Company	(Add 000)		% Chng.
	1989	1988	
Ashland	$ 8,692	$ 6,796	28
Burmah (Castrol)	8,423	7,095	19
Pennzoil	6,489	9,364	(31)
Quaker State	4,614	9,429	(51)
Mobil	2,641	3,720	(29)
British Petroleum*	2,128	45	4,629
Texaco	1,498	15,561	(90)
Phillips	1,395	1,397	—
Amoco	$ 981	—	—
Unocal	775	1,568	(51)
Shell	155	—	—
Chevron*	75	93	(19)
Sun	68	—	—
Atlantic Richfield	36	—	—
Exxon	25	65	(62)
Totals	**$37,995**	**$51,133**	**(26)**

*1988 data adjusted to reflect mergers, acquisitions and divestitures in 1988.

Spot TV Spending

Texaco	$23,428	$11,471	104
Exxon	16,776	18,585	(10)
Chevron*	16,744	13,925	20
Shell	16,317	5,922	176
Amoco	14,672	12,489	17
Mobil	13,587	10,718	27
Unocal	10,040	8,830	14
British Petroleum*	8,664	5,704	52
Sun	7,084	5,713	24
Ashland	6,611	4,636	43
Burmah (Castrol)	6,342	5,897	8
Citgo	4,536	2,378	91
Pennzoil	4,017	2,525	59
Atlantic Richfield	3,501	1,182	196
Conoco	2,733	2,962	(8)
Phillips	2,056	5,051	(59)
Amerada Hess	1,450	1,176	23
American Petrofina	1,290	1,462	(12)
Marathon	1,205	1,050	15
Witco (Kendall)	929	649	43
Totals	**$161,982**	**$122,325**	**32**

*1988 data adjusted to reflect mergers, acquisitions and divestitures in 1989.
Source: Television Bureau of Advertising, New York, from Arbitron Data.

Spot TV Spending Rises, Network Slumps

Oil company spending on television advertising—commercials, sponsored programs and entertainment alike—skyrocketed to $200-million in 1989, an upward leap of more than $27-million over the adjusted figures for the preceding year.

In the process, network TV spending declined 25.7% for the top 15 spenders while spot TV spending rose 32% for the top 20 oil company advertisers. It is difficult to make one-on-one comparisons because the roster of advertisers changes almost annually. The last decline, however, was in 1983 when oil companies collectively spent $128.6-million. Prior to that time, network and spot TV shared the advertising dollars almost 50-50. Since 1983, however, spot TV has commanded two to three times as many dollars as network TV and the gap is widening.

The Television Bureau of Advertising, which monitors the spending programs of oil and other industries, generally defines the network TV market as that of the three big networks—ABC, CBS, and NBC; and spot TV as primarily regional commercials and programs.

Television generally gets about three out of every four dollars spent by the oil companies on TV and radio commercials and the print media like newspapers and magazines.

Current Automotive Registrations

	Automobiles			Trucks and Buses			All Motor Vehicles			Motorcycles
State	Registered 1988	Estimated 1989	% Chng.	Registered 1988	Estimated 1989	% Chng.	Registered 1988	Estimated 1989	% Chng.	Estimated 1989
ALABAMA	2,919,814	3,065,000	5.0	961,167	1,010,000	5.1	3,880,981	4,075,000	5.0	48,000
ALASKA	229,279	233,000	1.6	132,604	134,000	1.1	361,883	367,000	1.4	8,000
ARIZONA	1,927,503	1,993,000	3.4	777,369	792,000	1.9	2,704,872	2,785,000	3.0	81,000
ARKANSAS	844,810	835,000	-1.2	582,240	601,000	3.2	1,427,050	1,436,000	0.6	14,000
CALIFORNIA	16,496,522	16,799,000	1.8	4,840,442	4,858,000	0.4	21,336,964	21,657,000	1.5	628,000
COLORADO	2,121,998	2,132,000	0.5	801,473	800,000	-0.2	2,932,471	2,932,000	0.3	102,000
CONNECTICUT	2,490,237	2,535,000	1.8	161,690	160,000	-1.0	2,651,927	2,695,000	1.6	54,000
DELAWARE	397,286	407,000	2.4	114,654	122,000	6.4	511,940	529,000	3.3	9,000
DIST. OF COL.	247,136	252,000	2.0	16,887	16,000	-5.3	264,023	268,000	1.5	2,000
FLORIDA	8,713,198	9,014,000	3.5	2,270,456	2,364,000	4.1	10,983,654	11,378,000	3.6	184,000
GEORGIA	3,690,981	3,802,000	3.0	1,505,239	1,583,000	5.2	5,196,220	5,385,000	3.6	75,000
HAWAII	613,750	626,000	2.0	90,961	93,000	2.2	704,711	719,000	2.0	17,000
IDAHO	594,228	609,000	2.5	345,950	344,000	-0.6	940,178	953,000	1.4	43,000
ILLINOIS	6,403,462	6,579,000	2.7	1,461,473	1,512,000	3.5	7,864,935	8,091,000	2.9	245,000
INDIANA	3,069,935	3,115,000	1.5	1,099,311	1,150,000	4.6	4,169,246	4,265,000	2.3	104,000
IOWA	1,817,383	1,848,000	1.7	750,363	765,000	2.0	2,567,746	2,613,000	1.8	179,000
KANSAS	1,523,226	1,543,000	1.3	686,687	694,000	1.1	2,209,913	2,237,000	1.2	74,000
KENTUCKY	1,861,754	1,887,000	1.4	933,323	954,000	2.2	2,795,077	2,841,000	1.6	33,000
LOUISIANA	1,970,360	1,986,000	0.8	967,189	998,000	3.2	2,937,549	2,984,000	1.6	34,000
MAINE	709,075	770,000	8.6	232,198	218,000	-6.1	941,273	988,000	5.0	39,000
MARYLAND	2,857,979	2,908,000	1.8	610,268	631,000	3.4	3,468,247	3,539,000	2.0	60,000
MASSACHUSETTS	3,322,044	3,292,000	-0.9	496,268	499,000	0.6	3,818,312	3,791,000	-0.7	58,000
MICHIGAN	5,556,109	5,637,000	1.5	1,585,382	1,656,000	4.5	7,141,491	7,293,000	2.1	200,000
MINNESOTA	2,503,362	2,553,000	2.0	706,995	714,000	1.0	3,210,357	3,267,000	1.8	117,000
MISSISSIPPI	1,362,686	1,377,000	1.1	424,173	434,000	2.3	1,786,859	1,811,000	1.4	25,000
MISSOURI	2,707,929	2,753,000	1.7	1,086,513	1,120,000	3.1	3,794,442	3,873,000	2.1	60,000
MONTANA	430,072	438,000	1.8	292,482	295,000	0.9	722,554	733,000	1.4	26,000
NEBRASKA	877,894	886,000	0.9	450,338	454,000	0.8	1,328,232	1,340,000	0.9	27,000
NEVADA	574,212	589,000	2.6	234,091	246,000	5.1	808,303	835,000	3.3	19,000
NEW HAMPSHIRE	733,529	774,000	5.5	194,585	202,000	3.8	928,114	976,000	5.2	39,000
NEW JERSEY	5,222,761	5,384,000	3.1	515,091	510,000	-1.0	5,737,852	5,894,000	2.7	97,000
NEW MEXICO	788,415	773,000	-2.0	478,145	474,000	-0.9	1,266,560	1,247,000	-1.5	34,000
NEW YORK	8,558,985	8,861,000	3.5	1,278,623	1,323,000	3.5	9,837,608	10,184,000	3.5	208,000
NORTH CAROLINA	3,597,092	3,698,000	2.8	1,425,536	1,503,000	5.4	5,022,628	5,201,000	3.6	56,000
NORTH DAKOTA	385,028	388,000	0.8	270,056	274,000	1.5	655,084	662,000	1.1	23,000
OHIO	7,003,826	7,129,000	1.8	1,608,192	1,691,000	5.1	8,612,018	8,820,000	2.4	244,000
OKLAHOMA	1,666,947	1,682,000	0.9	887,071	899,000	1.3	2,554,016	2.581,000	1.1	62,000
OREGON	1,749,239	1,815,000	3.8	566,452	552,000	-2.6	2,315,691	2,367,000	2.2	70,000
PENNSYLVANIA	6,253,550	6,354,000	1.6	1,512,479	1,568,000	3.7	7,766,029	7,922,000	2.0	177,000
RHODE ISLAND	555,313	566,000	1.9	115,500	121,000	4.8	670,813	687,000	2.4	23,000
SOUTH CAROLINA	1,799,425	1,849,000	2.8	614,487	625,000	1.7	2,413,912	2,474,000	2.5	28,000
SOUTH DAKOTA	413,668	420,000	1.5	278,964	287,000	2.9	692,632	707,000	2.1	30,000
TENNESSEE	3,373,276	3,509,000	4.0	852,214	873,000	2.4	4,225,490	4,382,000	3.7	53,000
TEXAS	8,455,744	8,523,000	0.8	3,950,469	4,042,000	2.3	12,406,213	12,565,000	1.3	197,000
UTAH	786,942	807,000	2.5	372,493	381,000	2.3	1,159,435	1,188,000	2.5	27,000
VERMONT	334,428	347,000	3.8	118,418	126,000	6.4	452,846	473,000	4.5	18,000
VIRGINIA	3,625,109	3,637,000	0.3	1,045,228	1,092,000	4.5	4,670,337	4,729,000	1.3	61,000
WASHINGTON	2,753,299	2,883,000	4.7	1,134,015	1,192,000	5.1	3,887,314	4,075,000	4.8	130,000
WEST VIRGINA	906,486	932,000	2.8	380,146	389,000	2.3	1,286,634	1,321,000	2.7	17,000
WISCONSIN	3,169,217	3,290,000	3.8	731,889	753,000	2.9	3,901,106	4,043,000	3.6	197,000
WYOMING	285,190	291,000	2.0	196,798	200,000	1.6	481,988	491,000	1.9	20,000
TOTAL	**141,251,695**	**144,375,000**	**2.2**	**43,145,037**	**44,294,000**	**2.7**	**184,396,732**	**188,669,000**	**2.3**	**4,376,000**

Source: Federal Highway Administration, Table SS88-3,Selected Highway Statistics, published October 1989.

Estimated Licensed Drivers, by Sex and States, 1988 and 1989

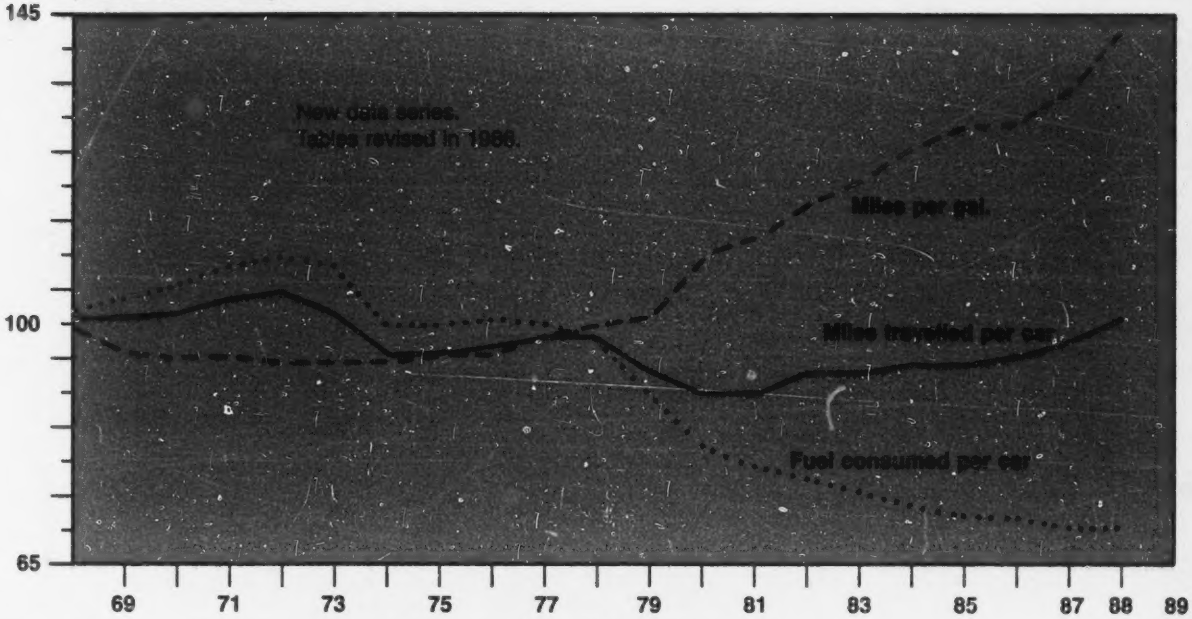
(Add 000)

State	1988 (Actual)				1989 (Estimated)			% Change Total Drivers	
	Male	Female	Total	% Male Drivers	Male	Female	Total	1989 vs 1988	1988 vs 1978
Alabama	1,072,334	1,025,262	2,097,596	51.12	1,081	1,033	2,114	0.8	-2.9
Alaska	164,852	135,148	300,000	54.95	166	136	302	0.7	35.9
Arizona	1,206,413	1,145,490	2,351,903	51.30	1,232	1,169	2,401	2.1	45.8
Arkansas	863,564	813,299	1,676,863	51.50	873	822	1,695	1.1	22.7
California	10,004,485	8,921,488	18,925,973	52.86	10,204	9,099	19,303	2.0	26.0
Colorado	1,189,727	1,036,558	2,226,285	53.44	1,199	1,045	2,244	0.8	11.5
Connecticut	1,211,801	1,158,165	2,369,966	51.13	1,223	1,168	2,391	0.9	15.0
Delaware	233,515	235,329	468,844	49.81	237	238	475	1.3	16.4
Dist. of Col.	214,586	177,189	391,775	54.77	216	178	394	0.6	12.2
Florida	4,674,721	4,115,122	8,789,843	53.18	4,782	4,210	8,992	2.3	28.0
Georgia	2,202,834	2,132,703	4,335,537	50.81	2,269	2,197	4,466	3.0	34.9
Hawaii	344,326	290,554	634,880	54.23	348	294	642	1.1	18.9
Idaho	366,485	341,076	707,561	51.80	372	346	718	1.5	20.4
Illinois	3,703,709	3,558,799	7,262,508	51.00	3,741	3,594	7,335	1.0	6.0
Indiana	1,944,153	1,828,855	3,773,008	51.53	1,955	1,839	3,794	0.6	6.9
Iowa	914,567	972,383	1,886,950	48.47	928	987	1,915	1.5	-6.7
Kansas	848,024	857,845	1,705,869	49.71	862	871	1,733	1.6	-4.1
Kentucky	1,223,007	1,144,567	2,367,574	51.66	1,239	1,159	2,398	1.3	16.2
Louisiana	1,315,396	1,282,569	2,597,965	50.63	1,319	1,287	2,606	0.3	15.0
Maine	433,662	433,066	866,728	50.03	440	439	879	1.4	26.8
Maryland	1,602,502	1,534,317	3,136,819	51.09	1,636	1,567	3,203	2.1	23.0
Massachusetts	2,198,205	2,051,609	4,249,814	51.72	2,242	2,092	4,334	2.0	14.0
Michigan	3,209,975	3,178,543	6,388,518	50.25	3,216	3,185	6,401	0.2	2.2
Minnesota	1,274,764	1,204,161	2,478,925	51.42	1,280	1,209	2,489	0.4	10.9
Mississippi	925,597	887,962	1,813,559	51.04	942	903	1,845	1.7	14.2
Missouri	1,776,678	1,734,998	3,511,676	50.59	1,796	1,754	3,550	1.1	11.0
Montana	292,988	241,469	534,457	54.82	294	242	536	0.3	-7.9
Nebraska	550,328	537,776	1,088,104	50.58	558	546	1,104	1.5	2.6
Nevada	391,404	357,633	749,037	52.25	400	366	766	2.3	42.1
New Hampshire	405,204	393,132	798,336	50.76	412	399	811	1.6	30.1
New Jersey	2,868,885	2,582,671	5,451,556	52.63	2,906	2,616	5,522	1.3	21.2
New Mexico	544,576	502,685	1,047,261	52.00	550	508	1,058	1.0	30.4
New York	5,433,591	4,709,873	10,143,464	53.57	5,493	4,762	10,255	1.1	11.1
North Carolina	2,231,228	2,190,706	4,421,934	50.46	2,276	2,234	4,510	2.0	22.9
North Dakota	220,072	211,294	431,366	51.02	220	212	432	0.1	7.0
Ohio	3,760,864	3,617,873	7,378,737	50.97	3,768	3,625	7,393	0.2	-9.8
Oklahoma	1,110,244	1,109,052	2,219,296	50.03	1,128	1,126	2,254	1.6	18.4
Oregon	1,137,303	1,032,821	2,170,124	52.41	1,151	1,045	2,196	1.2	18.8
Pennsylvania	4,029,223	3,702,657	7,731,880	52.11	4,054	3,725	7,779	0.6	9.4
Rhode Island	336,501	329,747	666,248	50.51	345	339	684	2.7	14.8
South Carolina	1,161,402	1,144,131	2,305,533	50.37	1,183	1,166	2,349	1.9	27.1
South Dakota	244,445	238,130	482,575	50.65	245	238	483	0.1	2.7
Tennessee	1,587,611	1,611,367	3,198,978	49.63	1,608	1,633	3,241	1.3	18.7
Texas	5,739,889	5,340,813	11,080,702	51.80	5,757	5,357	11,114	0.3	29.3
Utah	490,277	487,359	977,636	50.15	496	494	990	1.3	26.5
Vermont	210,614	195,580	406,194	51.85	213	198	411	1.2	23.8
Virginia	2,089,470	2,040,040	4,129,510	50.60	2,127	2,077	4,204	1.8	26.7
Washington	1,637,237	1,560,786	3,198,023	51.20	1,660	1,583	3,243	1.4	28.7
West Virginia	691,604	616,608	1,308,212	52.87	694	619	1,313	0.4	-8.1
Wisconsin	1,680,715	1,587,492	3,268,207	51.43	1,691	1,597	3,288	0.6	12.7
Wyoming	183,872	165,074	348,946	52.69	188	169	357	2.3	9.4
Total	**84,149,429**	**78,703,826**	**162,853,255**	**51.67**	**85,215**	**79,697**	**164,912**	**1.3**	**15.6**
Percent Change From Prior Year	**0.6**	**1.53**	**1.07**	-	-	-	-	-	-

Source: Federal Highway Administration, Table SS87-5, Selected Highway Statistics, published October 1988

Passenger Car Efficiency Index

(Index: 1967 = 100)



Passenger Car Energy Indicators—1967-1988 (a)

(1967 = 100)

	Passenger Cars Only						Passenger Cars and Motorcycles		
	Avg. Fuel Used per Car		Avg. Miles Traveled per Car		Avg. Miles per gal. of Fuel				
Year	Gal.	Index	Miles	Index	Miles	Index	Number Registered (000)	Gasoline Consumed (000,000 gal.)	Miles Traveled (000,000)
1988	507	70.9	10,119	100.6	19.95	141.8	145,836	71,854	1,439,319
1987	514	71.9	9,878	98.2	19.20	136.5	142,125	70,763	1,364,836
1986	526	73.6	9,608	95.5	18.27	129.9	140,693	71,403	1,310,921
1985	525	73.4	9,560	95.0	18.20	129.4	137,308	69,450	1,269,651
1984	536	75.0	9,558	95.0	17.83	126.7	134,334	73,283	1,274,074
1983	553	77.3	9,475	94.2	17.14	121.8	131,723	73,156	1,229,697
1982	566	79.2	9,428	93.7	16.65	118.3	129,500	72,848	1,191,623
1981	576	80.6	9,186	91.3	15.94	113.3	129,123	71,718	1,124,843
1980	591	82.7	9,141	90.9	15.46	109.9	127,448	73,375	1,129,887
1979	653	91.3	9,403	93.5	14.41	102.4	125,750	80,233	1,162,528
1978	701	98.0	9,835	97.8	14.04	99.8	121,717	83,775	1,194,287
1977	716	100.1	9,879	98.2	13.80	98.1	118,711	80,677	1,141,166
1976	723	101.1	9,785	97.3	13.53	96.2	115,170	78,847	1,098,147
1975	716	100.1	9,690	96.3	13.52	96.1	111,679	76,457	1,050,472
1970	760	106.3	10,272	102.1	13.52	96.1	92,095	65,784	900,992
1967	715	100.0	10,060	100.0	14.07	100.0	82,367	55,110	774,203

(a) Data for this table were revised by The Federal Highway Administration in 1986 and this automatically replaces all prior data.

Mileage and Fuel Consumption Data—1988

	Personal Vehicles						
	Passenger Cars	Motorcycles	All Personal Passenger Vehicles	Buses	All Passenger Vehicles	Trucks and Combinations	All Motor Vehicles
Fuel consumed (million gal.)	71,654	200	71,855	920	72,775	57,111	129,886
Average per vehicle (gal.)	507	44	493	1,494	497	1,343	687
Average miles per gal.	19.85	50	20.03	594	19.85	10.17	15.60
Vehicles registered (thousands)	141,251	4,584	145,836	602	146,452	42,529	188,981
Average miles traveled	10,119	2,186	9,869	8,877	9,865	13,656	10,718
Average miles traveled (millions):							
Main rural roads	—	—	321,011	1,401	322,412	170,908	493,320
Local rural roads	—	—	206,068	1,700	207,768	116,469	324,237
Urban streets	—	—	912,240	2,364	914,604	293,425	1,208,029
Total travel in 1988	**1,429,297**	**10,022**	**1,439,319**	**5,465**	**1,444,385**	**580,802**	**2,025,586**
Total travel in 1987	**1,355,350**	**9,506**	**1,364,836**	**5,318**	**1,370,154**	**551,050**	**1,921,204**

Source: Federal Highway Administration, Table VM-1, published October 1988; all 1988 data are preliminary.

1988 Relationships by Population and Drivers

State	Resident Population (1,000)	Licensed Drivers per 1,000 Resident Population	Registered Motor Vehicles per 1,000 Resident Population	Gal. of Fuel per Vehicle	Miles per Gallon	Annual Miles per Vehicle	Vehicle Miles per Licensed Driver
Alabama	4,102	511	946	635	16.10	10,225	18,919
Alaska	524	573	691	699	15.17	10,614	12,803
Arizona	3,489	674	775	728	17.39	12,661	14,561
Arkansas	2,395	700	596	1,122	12.01	13,468	11,461
California	28,314	668	754	672	16.85	11,322	12,764
Colorado	3,301	674	866	581	16.29	9,463	12,427
Connecticut	3,233	733	820	591	16.63	9,828	10,997
Delaware	660	710	776	763	16.41	12,509	13,659
Dist. of Col.	617	635	428	771	16.72	12,897	8,691
Florida	12,335	713	890	595	16.13	9,589	11,982
Georgia	6,342	684	819	823	14.56	11,982	14,361
Hawaii	1,098	578	642	528	19.95	10,528	11,686
Idaho	1,003	705	937	572	15.12	8,644	11,486
Illinois	11,614	625	677	710	14.05	9,979	10,807
Indiana	5,556	679	750	787	15.57	12,262	13,550
Iowa	2,834	666	906	634	13.46	8,532	11,610
Kansas	2,495	684	886	704	13.59	9,575	12,405
Kentucky	3,727	635	750	830	13.63	11,311	13,353
Louisiana	4,408	589	666	798	14.79	11,806	13,350
Maine	1,205	719	781	786	15.41	12,112	13,154
Maryland	4,622	679	750	676	16.00	10,812	11,954
Massachusetts	5,889	722	648	718	15.80	11,349	10,197
Michigan	9,240	691	773	662	16.47	10,908	12,194
Minnesota	4,307	576	745	710	15.99	11,353	14,703
Mississippi	2,620	692	682	850	14.51	12,336	12,155
Missouri	5,141	683	738	848	14.16	12,010	12,977
Montana	805	664	898	733	15.37	11,263	15,277
Nebraska	1,602	679	829	705	14.32	10,094	12,321
Nevada	1,054	711	767	866	12.84	11,121	12,001
New Hampshire	1,085	736	855	614	16.68	10,243	11,909
New Jersey	7,721	706	743	674	15.17	10,225	10,762
New Mexico	1,507	695	840	792	15.24	12,067	14,593
New York	17,909	566	549	629	16.75	10,540	10,223
North Carolina	6,489	681	774	768	15.01	11,536	13,104
North Dakota	667	647	982	630	13.97	8,800	13,365
Ohio	10,855	680	793	653	14.58	9,520	11,112
Oklahoma	3,242	685	788	770	16.46	12,681	14,594
Oregon	2,767	784	837	701	15.53	10,884	11,614
Pennsylvania	12,001	644	647	712	14.70	10,461	10,507
Rhode Island	993	671	676	633	13.79	8,725	8,785
South Carolina	3,470	664	696	753	17.48	13,157	13,775
South Dakota	713	677	971	654	14.63	9,578	13,747
Tennessee	4,895	654	863	716	14.62	10,459	13,815
Texas	16,841	658	737	792	15.92	12,611	14,120
Utah	1,690	578	686	778	14.71	11,439	13,566
Vermont	557	729	813	716	17.12	12,262	13,671
Virginia	6,015	687	776	751	16.37	12,302	13,913
Washington	4,648	688	836	625	17.20	10,756	13,075
West Virginia	1,876	697	686	775	13.93	10,791	10,613
Wisconsin	4,855	673	804	625	17.43	10,884	12,991
Wyoming	479	728	1,006	921	12.75	11,739	16,215
Total	**245,807**	**663**	**750**	**704**	**15.60**	**10,985**	**12,438**

Source: Federal Highway Administration, Table SS88-18, Selected Highway Statistics, published October 1989.

Gasoline	Motor Oil
Ada Resources	
Phillips (r,ur,up)	Philips Trop Artic
Conoco (r,ur,up)	Philips Super HD
	Conoco High Perfomance Heavy Duty
	Conoco Fleet
	Unocal Guardol
	Unocal Super
Agway Petroleum Corp.	
Agway (r,ur,up,usp,d,pd)	Agway
Power Champ (r,ur,up)	Agway Super Diesel
	Agway Diesel
	Agway Super Premium
	Agway Premium
American Petrofina, Inc.	
Fina (r,ur,usp)	Fina Ultra Supreme
	Fina KAPPA XHD Universal Plus
	Fina Universal Plus
Amoco Corp.	
Amoco (r,ur w/Ethanol, u Silver, u Ultimate)	Amoco-Amolube
	Amoco 200
	Amoco 300
	Amoco 400
	Amoco 21C
	Amoco Turbo
	Amoco LDO
	Amoco Ultimate
Anchor Gasoline Corp.	
Canal (r,ur,up)	Sun
Bayou (r,ur,up)	
Arco Products Company	
Arco (r,ur,usp)	Arco
	Arco Fleet S3 Plus
	Arco Supreme
	Arco Graphite III
Arkansas Valley Petroleum	
Superclean (ur,up,usp)	
Sunoco (r,p,sp)	
Ashland Oil, Inc.	
	Valvoline
Atlantic Refining and Marketing Corp.	
Atlantic (r,ur,up,usp)	Atlantic-Special
	Atlantic-Premium
	Atlantic-Super Premium
ARCO	
Arco (r,rec-1,u,usp)	ARCO
	ARCO S3 Plus
	ARCO Graphite III
Aztex Enterprises	
Citgo (ur,Advantage Performer)	Citgo
Bagwell Oil Co., Inc.	
Unocal 76	Unocol 76
Chevron	Chevron
BP	BP
Bedford Valley Petroleum Corp.	
Amoco (ur,up)	Amoco
Chevron (ur,up)	Chevron
Texaco (ur,up)	Quaker State
	Kendall
	Pennzoil
	Texaco
Beneto, Inc.	
Exxon	
Bostick Brothers, Inc.	
Citgo (r,ur)	Conoco
Texaco (ur)	Texaco
BP America Inc.	
Sohio/Boron (ur,up,usp)	BP All Season
Gulf (r,ur,up)	BP Premax
BP (r,ur,up,usp)	BP Nitrex Super Premium
	Vanellus-Commercial Vehicle
Bradley Petroleum Inc.	
	Sinclair
Bray Terminals, Inc.	
Citgo (r,ur,p,up,sp,usp,o)	Chevron
	Citgo
	Castrol
Brennan Petroleum Co.	
Mobil (r,ur,up)	Mobil
Browning Oil Co.	
Shell (r,ur,p,up)	Shell
Rally (r,ur,up)	
Buhrmaster Engergy Group	
Atlantic (r,ur,up)	Magnum
Hess (r,ur,up)	Atlantic
	Wolf's Head
Dennis K. Burke Inc.	
	Fleetline
	Citgo
	Texaco
	Shell
	Castrol
	Chevron
C.S.C. Oil Co.	
CSC (r, ur, up)	
Campbell Oil Co.	
Shell (r, ur, p)	Shell
Unocal	Unocal
Sunoco	Sunoco
Cannon Oil Corp.	
Cannon (ur,up,usp, d)	Cannon 10W40
	Cannon 10W50
	Cannon HD
	Cannon Regular
	Cannon 50-1 Outboard
CENEX	
Cenex (r,ur,up,usp)	Golden D
	Super Lube 518
	Super Lube XL
	CENEX Hi-Tech.
	CENEX TC-501
Center Independent Oil Co.	
Citgo	Citgo
	Castrol
	Vavoline
	Quaker State
	Pennzoil
	Wolf's Head
Certified Oil Co.	
	Certified
	Quaker State
	Valvoline
	Shell
Champlain Oil Co.	
Citgo	Citgo
Texaco	Quaker State
Gulf	
BP	
Chapman Inc.	
Texaco (r,ur,p,up,sp,usp)	Havoline
	URSA
Charter Marketing Co.	
Charter (r,ur,up)	
Chevron Corp.	
Chevron (r,ur,up,usp)	Chevron Special
	Chevron Custom
	Chevron ATF Special
	Chevron Dexron II (ATF)
	Chevron DELO 400 Plus
	Standard ATF Special
Circle K Corp.	
CITGO Petroleum Corp.	
Citgo Reg. (r, ur)	Citgo Non-detergent
The PerformerPremium (r, ur)	Citgard ™ 500
Citgo Advantage Mid-grade (o)	Citgard ™ 600
	Citgard ™ Special
	Citgo Supergard ™
Clark Oil & Refining Corp.	
Regular Leaded	Clark H.D.
Regular Unleaded	Clark Premium 5W-30
Super Unleaded	Clark Premium 10W-40
	Clark Premium 10W-30
The Coastal Corporation	
Coastal (r,ur,p,up,sp,usp,o)	Uni-Lube
Coen Oil Co.	
Amoco	Amoco
Union	Union
Mobil	Mobil
Citgo	Citgo
Pennzoil	Pennzoil
	Quaker State
	Valvoline
Colonial Oil Industries, Inc.	
Enmark (ur,up,usp	Enmark
Como Oil Co.	
Phillips 66 (r,ur,p,up)	Phillips
	Shell
Conoco Inc.	
Conoco (r,ur,up,usp)	Tracon
	Fleet
	Super
	HP Naling
	HP Turbo
	HP Xtreem
Consumers Gasoline Stations, Inc.	
Scot	Consumers Oil
Consumers	Texaco
Mobil	Mobil
Convenient Petroleum Corp.	
Citgo (r,ur)	Citgo
Texaco (r,ur)	Texaco
Sunoco (r,ur)	Sunoco
Crockett Oil Co.	
Conoco	Conoco
	Shell
	Texaco(Havoline)
	Phillips
	Penzoil Sun
	Mobil
Crown Central Petroleum Corp.	
Crown (r,ur,up,usp,d)	Crown All-Season HD
	Crown Premium HD
	Crown Quality
	Crown Universal ATF
Crystal Flash Petroleum	
Crystal Flash (ur,up,usp,o,d)	Citgo
Curtis Parker Oil Co., Inc.	
Conoco (ur,usp)	Fleet
	Super
	Tracon
	Par
K.E. David Ltd.	
Citgo (r,ur)	
DeBlois Oil Co.	
Texaco (ur,up,usp)	Texaco
Citgo (ur,up,usp)	Sunoco
Sunoco (ur,up,usp)	Citgo

KEY: Gasoline
(r) Regular
(ur) Unleaded regular
(p) Premium
(up) Unleaded premium
(sp) Super premium
(usp) Unleaded super premium
(o) Other
(d) Diesel

Gasoline	Motor Oil
Diamond Shamrock Refining & Mfg. Co.	
Diamond Shamrock (r,up,usp,RG87)	Diamond Shamrock
	Five Star
	Liberty
	Hydra
	Hy-Grade
	Gemune
	Golden State
	Approve ATF
Dickey, Inc.	
	Conoco
	Texaco
Drakes Refining Stations	
Unino 76 (r,ur,up)	Kendall
	Quaker State
	Pennzoil
East Coast Oil Corp.	
East Coast (r,ur,up)	
Emro Marketing Co.	
(ur,up,usp)	Titan
Englefield Oil Co.	
Gulf (r,ur)	Duke
Marathon (r,ur)	Gulf
Mobil (r,ur)	Marathon
	Mobil
Exxon Company, U.S.A.	
Exxon (r,ur,)	Superflo High Performance
Exxon Plus (up)	Superflo Single Grade
Exxon Supreme (usp)	Superflo Multi-Grades
	Superflo Supreme Performance
Farm & Home Oil Co.	
Texaco (ur,up,usp,d)	Texaco
Amoco (ur,up,usp)	Amoco
Exxon (ur,up,usp)	Exxon
Fas-Stop, Inc.	
APCO (r,ur)	
Fleetman Inc.	
Fuelman (r,ur,up,d)	Oilman
F.O. Fletcher Oil, Inc.	
Veltex (r,ur)	
Price-Less (r,ur)	
Fortmeyer Inc.	
Pennzoil (r,ur,p,up,sp,usp,o)	Pennzoil
Ashland (r,ur,p,up,sp,usp,o)	
Foster Oil Co.	
Union 76 (r,ur,usp)	Unocal
Boron (ur)	Boron BP
	Pennzoil
	Mobil
Franko Oil Co.	
Arco	Arco
H.N. Funkhouser & Co.	
Texaco (r, ur)	Quaker
Exxon (r,ur,up)	Pennzoil
	Kendall
	Texaco Havoline
	Exxon Superflow
Geldbach Petroleum Co., Inc.	
Mobil	Mobil
General Oil Co.	
Sinclair (r,ur,up)	
Getty Petroleum Corp.	
Getty (ur,up,usp)	Getty

KEY: Gasoline
(r) Regular
(ur) Unleaded regular
(p) Premium
(up) Unleaded premium
(sp) Super premium
(usp) Unleaded super premium
(o) Other
(d) Diesel

Gasoline	Motor Oil
Global Petroleum Corp.	
Mobil	
Sun	
Conoco	
Global	
King	
Coastal	
Godwin Oil Co.	
Texaco	
Phillips	
Golden Gate Petroleum Co.	
BP (r,up,d)	BP
Shell (r,up,d)	Texaco
	Union
	Mobil
	Shell
Golub Corp.	
Gulf (ur,up)	Citgo
	Mobil
	Price Choppes
Gresham Petroleum Co.	
Amoco (r, ur, up, d)	Amoco
Chevron (ur,up)	Chevron
Gulf Oil	
Gulf (r, ur, usp)	Gulflube Single
	Gulflube HD
	Gulflube XHD
	Super Duty
	Gulfpride Single G
	Super Premium
	Gulf Pride Auto Diesel
Gull Industries Inc.	
Gull (r, ur, up)	
Hawaiian Independent Refinery Inc.	
Gas Express	Valvoline
Highway Oil, Inc.	
Regular unleaded	Workingman's Friend
Premium unleaded	
Diesel	
Angus I. Hines Inc.	
Sentry (r,ur,up,d)	Sentry
Hop-In Food Stores	
Hop-In w/ethanol(r,ur,up)	Empire
Union (ur,up,usp)	Havoline
Shell	Quaker State
Sunoco	Pennzoil
Horkey Oil Co., Inc.	
Shell (r,ur,SU2000,RV2000)	Shell
Horn Distributing Co., Inc.	
Gulf	
Hub-Langie Fuel Corp.	
Hess	
United	
BP	
Ashland	
NOCC	
Hucks Convenience Stores	
Hucks	Private
Shell	Pennzoil
Amoco	Havoline
Chevron	
Phillips	
Hudson Farris Corp.	
APCO	Pennzoil
	Havoline
	Valvoline
	Phillips
	Quaker State
	Total
Hughes Energy Inc.	
Mobil	Mobil
	Emblem
Hull Oil Co.	
Chevron (r,ur,p,up,sp,usp,o)	Chevron
Hull (r,ur,p,up,sp,usp,o)	

Gasoline	Motor Oil
Hunt Refining Co.	
Parade (r,ur,up)	
Huntley Jiffy, Inc.	
Huntley-Jiffy	Huntley-Jiffy
Phillips	
Citgo	
Jacobus Petroleum Products Inc./ Jiffy Stop, Inc.	
Citgo	Citgo
Unocal	Unocal
Phillips	Phillips
Marathon	Marathon
	Rotella Shell
	Texaco
Johnson Products, Inc.	
Citgo	Getty
Getty	Citgo
Texaco	Texaco
Kellett Oil Co.	
Texaco (r,ur,p,up,sp,usp)	GRC
Phillips 66 (r,ur,p,up,sp,usp,o)	Texaco
Sinclair (r,ur,p,up,sp,usp)	
Kelley Williamson Co.	
Mobil (ur,up)	Citgo
Citgo (ur,up)	Mobil
Phillips (ur,up)	Kendall
Kelso Oil Co., Inc.	
Pride (r,ur,up,usp)	Kendall
	Quaker State
	Havoline
Kent Distributors, Inc.	
Diamond Shamrock	Shamrock
Phillips 66	Phillips 66
	Quaker State
	Penzoil
Kerr-McGee Refining Corp.	
KM (r,ur,up,usp,o)	Valu Lube
	Heavy Duty
	Blue Max
	Blue Velvet
Kickapoo Oil Co., Inc.	
Kickapoo (r,ur,p,up,d)	Kickapoo
	Pennzoil
Kimber Petroleum Corp.	
Amoco	Amoco
Mobil	Mobil
Kingston Oil Supply Corp.	
Mobil	Mobil
Getty	
Kirschner Bros. Oil Co.	
Chevron	
Getty	
Krause Gentle Corp.	
Conoco	
Amoco	
Pennzoil	
Quaker State	
Kunz Oil Co.	
Kolh	
Phillips	
Lake Shore Petrocorp	
Phillips 66 (r, ur)	Phillips Trop Artic
Marathon (r, ur)	Phillips All Season
Carlos R. Leffler	
(ur,up,usp)	Texaco
	Shell
	Chevron
	Mobil
	Gulf
	Aro
H. C. Lewis Oil Co.	
Exxon (r, ur, usp)	Exxon
Lewco (ur,up,usp)	

	Gasoline	Motor Oil
The Lyden Company	Amoco (r,ur,usp,d) Union	Amoco Quaker State Valvoline
Marathon Petroleum Co.	Mile Maker (r) Extra M Super M (p)	V.E.P All Season Multi-Power-3 Endurance Marine-Terrain Master
Martin Oil Marketing, Ltd.	Martin (r,ur,usp,o,d)	Martin All Season 5W30 Martin All Season 10W30 Martin All Season 10W40
McDowell Oil Service/Time Markets, Inc.	Exxon (ur,up,usp)	
McLeleer Oil, Inc.	Unocal 76 Marathon Sunoco	Kendall Unocal 76 Marathon Sunoco
Merchants Oil Inc.	Dino (r,ur,p,up,sp,usp)	Sinclair Trop Arctic Pennzoil Quaker State Shell
Merit Oil Corp.	Merit (r,ur,up)	Merit Special Merit 10W30 Merit 10W40 Merit ATF
Merritt Truax, Inc.	Texaco Arco Shell Chevron Pride of Oregon	Major Brands
M.G.S. Oil, Petroleum & General Trading Corp.	Marathon (r,ur, usp,d)	Marathon 20W50 Marathon 15W40 Marathon W20 & 30 Arco W20 & 30
Mid-Continent Systems, Inc.	Citgo (r,ur,up,usp) Gulf (ur,up)	Shell Citgo Texaco
Midwest Petroleum Co.	Sunoco Shell	All Temp Pennzoil Sun Shell Chevron
Mid-Missouri Oil Co.	Shell (ur,up,usp) Citgo (r,ur,up,usp)	Shell Citgo
Miller Enterprises, Inc.	Unocal (r,ur,p,up,sp,usp,o) Phillips (r,ur,p,up,sp,usp,o)	
Miller Oil Co.	Mobil (r,ur,up) Fina (r,ur,up) Exxon (r,ur,up) Citgo (r,ur,up) Phillips (r,ur,up) Amoco (ur,up)	Miller Amoco Exxon Mobil
Missouri Terminal Oil Co.	Fina (r,ur,p,up,sp,usp,o,d) Sunoco (r,up)	Fina Arco Sun Mobil Sinclair
Mobil Oil Corp.	Mobil Unleaded Special Super unleaded +	Mobil Regular Mobil Heavy Duty Mobil Super Mobil Delvac Mobil 1
Munro Petroleum & Terminal Corp.	Shell	Shell MP
Murphy Oil USA, Inc.	Spur (ur,usp)	
Musket Corp.	Independent	Major Brands
National Oil & Gas Inc.	Phillips (r,ur,p,up,sp,usp) Marathon (r,ur,p,up,sp,usp)	Marathon Phillips Mobil Shell Kendall
Neal, Inc.	Fina (ur,up,usp,o)	Fina
Nella Oil Co.	1-Stop (r,ur,p,up,sp,usp,o) Exxon (r,ur,p,up,sp,usp,o)	Superflow Exxon BEACON
Olympian Oil Co.	Olympic (r,ur,up,usp)	Kendall Chevron Exxon Castrol Olympic
Pal Oil Company, Inc.	Gulf Atlantic Pal	
Parker Oil Co., Inc.	Union 76 Exxon Citgo Petrol	Union 76 Exxon Citgo Texaco
Patterson Oil Co., Inc.	Mobil Gulf Citgo	Mobil Gulf Citgo
Peavey Oil Co.	Texaco (r,ur,up,d)	Texaco
Pennzoil	Pennzoil (r,ur,up,sp)	Pennzoil Wolf's Head
Petroleum Marketers, Inc.	Shell Exxon Citgo	Shell Exxon Citgo
Petroleum Products Corp.	Best (r,ur,up,usp,o)	Exxon Sun Mobil Shell Gulf
Petrotex Marketing Inc.	Shell (r,ur,up)	Fina Quaker State Pennzoil Shell Chevron
Pettway Oil Co.	Amoco (ur,up,usp)	Amoco Citgo Mobil Phillips
Phillips 66 Co.	Phillips (r,ur,p,up,sp,usp)	Unique M M Motor Oil Super HD II Trop Artic HDS
Piasa Motor Fuels, Inc.	Unocal (r,ur,up,usp) Conoco (r,ur,up,usp)	Conoco Amoco Shell Valvoline Pennzoil Quaker State
Pilot Oil Corp.	Pilot (r,ur,up)	Pilot
Pride of Texas Distributing Co. Inc.	Texaco Diamond Shamrock	
Pride Oil Co., Inc. (Miss.)	Pride (r,ur,p,up,sp)	
Publix Oil Co., Inc.	Publix (r, ur, p, up, sp, usp, o)	
Quaker State Corp.	Quaker State (r,ur,up)	Quaker State HD Quaker State HDX Universal Fleet Quaker State Super Blend Quaker State DeLuxe Quaker State Sterling
Quality Oil Co. Limited Partnership	Shell (ur,up,usp) Quality Plus (r,ur,usp)	Shell 30W Shell X-100 Shell Rotella Shell Fire & Ice Shell Fire & Ice 200 Shell Truck Guard
Quarles Petroleum	Shell Texaco	Shell
Quiktrip Corp.	Redline (r,p,sp)	Redline
Red Hed Oil Co., Inc.	Citgo (r,ur,up,usp)	Major Brands
Reinauer Petroleum Inc.	Citgo (r,ur,p,up,usp,o)	
Reinhardt Oil Corp.		Sunoco Citgo
Republic Oil Corp.	Dixie (r,ur,up,usp,d)	Delco Rotella
Reynolds Industries, Inc.	Port (ur,up,usp)	
River Oil Co.	Phillips 66	Phillips 66
Roach Oil Co.	Texaco (ur,up,usp)	Havoline
Robinson Oil Co., Inc.	Rotten Robbie (r,ur,usp,d)	
Royster Oil Co., Inc.	Gulf (ur,sp) BP (ur,up,usp)	Nitrex All Season Vanellus
Russell Petroleum Corp.	Texaco (ur,up,o) Spur (ur,up,o) Saveway (ur,up,o)	Quaker Stae Texaco

KEY:
Gasoline
(r) Regular
(ur) Unleaded regular
(p) Premium
(up) Unleaded premium
(sp) Super premium
(usp) Unleaded super premium
(o) Other
(d) Diesel

Gasoline	Motor Oil
Sahara Oil Co., Inc.	
Texaco (r,up,usp,d)	
Santee Oil Co., Inc.	
Shell (r,ur,usp)	Shell
Marathon (r,ur,usp)	
Save-X USA, Inc.	
	Pennzoil
	Havoline
SCASCO	
Texaco (r,ur,p,up,sp,usp,o)	Texaco
Hess (r,ur,p,up,sp, sp,o)	
Sears Oil Co. Inc.	
Sears (r,ur,p,up,sp,usp)	Sears Premium
	Sears Supreme
	TRI Pure
Shay Oil Co., Inc.	
Exxon (r,ur,p,up,sp,usp)	Exxon
Shelby Petroleum Corp.	
Peer (r,ur,p,up,sp,usp)	Bonus Regular
Bonus (r,ur,p,up,sp,usp)	Sail Premium
	Peer Premium
	Peer Heavy Duty
	Peer Multi-Grade
Shell Oil Co.	
Shell (RU2000,SR2000, SU2000)	Shell
	X-100
	Fire & Ice 2000
	Super 2000
	Shell Truck Guard
Shotmeyer Bros. Petroleum Corp.	
Mobil	Mobil
SICO Co.	
Amoco (ur,up,usp)	Citgo
Exxon (ur,up,usp)	Valvoline
	Amoco
	Atlantic
	Exxon
Simon Oil Co., Inc.	
Sun	
Mobil	
Atlantic	
R.L. Smeltz Oil Co., Inc.	
Amoco	Amoco
Pennzoil	Pennzoil
Smith-Shafer Oil Co.	
SS (r,ur,up)	
SOS Oil Corp	
Gulf (ur,up)	Beaver
	SOS
Southern Counties Oil Co.	
Arco (ur,up)	Union
Texaco (ur,up,o)	Chevron
	Mobil
	Texaco
	Shell
Southern Oil Co., Inc.	
Exxon	Exxon Superflow
	Pennzoil
Southern States Co-op	
Southern States	Co-op
The Spencer Co., Inc.	
Amoco (ur,r,o)	Amoco
Citgo (ur,r,o)	Citgo
	Texaco
	Quaker State
Star Oil Co.	
Shell (r,ur,up)	Shell
Steuart Petroleum Co.	
Steuart (r,ur,p,up)	Cam2
	Pennzoil
Stevens Oil Co.	
Chevron (r,p,up,sp,usp,d)	Chevron RPM
	Custom
	Delo 400
Sugar Creek Corp.	
Mobil (r,ur,up,o)	Mobil
Sun (r,ur,up,o)	Sun
Shell (r,ur,up,o)	Shell
Citgo (r,ur,up,o)	Quaker State
Sumrall Oil Services, Inc.	
SOS	
Sun Refining and Marketing Co.	
Sun & Atlantic (r)	Sun Lube
Atlantic (up,usp)	Sunoco Ultra Super C
Sunoco Ultra	Sunoco Ultra
Sunoco Economy	Atlantic Super Premium
	Atlantic Special
Sunshine Jr. Stores, Inc.	
Jr. (r,ur,up,usp)	Rallye
Citgo (r,ur,up,usp)	Citgo
	Texaco-Havoline
	Quaker State
	Castrol
TCR, Inc.	
TCR (r,ur,p)	TCR
Taylor Oil Co.	
Etna (ur,up,usp)	
Texaco Inc.	
Texaco (r,ur,up,sp,o)	URSA Oil Extra Duty
	URSA Oil Super Plus
	URSA Oil Premium
	Havoline Premium
	Havoline Supreme
	Havoline High Performance
	Havoline Superior
Thornhill Oil Co.	
Amoco (ur,up,usp)	Amoco
	Texaco
	Quaker State
Thrifty Oil Co.	
Thrifty (r,ur,up,usp)	Thrifty
Time Saver Stores Inc.	
	Golden State
	Quaker State
	Pennzoil
Tooley Oil Co.	
Tooley's (r,ur,sp,usp,d)	
Shell (r,ur,sp,usp,d)	
Total Petroleum, Inc.	
Total (r,up)	Total Big Value
Vickers (ur,up)	Total Golden Supreme
Road Runner (r,ur.up)	Total All Season
	Total Quartz
	Total GTS Quality
Transit Oil Co.	
Transit (r,ur)	Transit
Travelers Petroleum, Inc.	
Texaco (r,ur,up,sp)	
Self Way (r,ur,p,up)	
Trenton Oil Co. Inc.	
Amoco (ur,up,usp)	Amoco
Triton Inc.	
Happy (r, ur, up)	Happy
Tryon Oil Company	
Atlantic	Magnum
Hess	Wolf's Head
	Atlantic
Ultra Power Corp.	
Gulf (r,ur,p,up,sp,usp,o)	Gulf
Ultra Power (r,ur,p,up,sp,usp,o)	Arco
Ultramar	
Super Leaded 90	Beacon
Super Unleaded 90	
Super Premium 92	
Unocal Corp.	
76 (r,ur,up,usp)	Unocal Heavy Duty
	Unocal Premium
	Unocal Guardol
	Unocal Super 10W-30
	Unocal Super 10W-40
	Unocal 20W/50 High Performance
Vista Marketing Group Ltd.	
	Pennzoil
	Quaker State
Wake Up Oil Co.	
Wake Up (r,ur,usp)	
Warren Equities, Inc.	
Sunoco (r,ur,ultra)	Oilzum
Citgo (r,ur,usp)	Citgo
Mobil (r,ur,usp)	Sunoco
	Shell
	Mobil
	Castrol
West Penn Oil Co., Inc.	
	Emblem Oil
Western Marketing, Inc.	
Conoco (r,ur,usp)	Delco
Shell (r,ur,usp)	Conoco Par
	Conoco Fleet
	Conoco Super
	Conoco Fleet Supreme
	Shell Rotella
	Aero Shell
A. T. Williams Oil Co.	
Wilco (r, ur, up, usp)	Wilco
J.H. Williams Oil Co., Inc.	
Unocal (r,ur,up)	Unocal Custom
	Unocal HD
	Guardol
	Unocal Premium
	Unocal Super
	Unocal HD-20W50
The Wills Group, Inc	
Texaco (ur,up)	
Exxon (ur,up)	
Amoco	
BP	
Wooten Oil Company	
Texaco (r,ur,up)	Texaco
Amoco (r,ur,up)	
Citgo (r,ur,up)	
World Oil Co.	
World (r,ur,up,usp)	
Shell	
Arco	
Texaco	
Wright Industries, Inc.	
Marathon (r,ur,up)	Citgo
Citgo (r,ur,up)	Marathon
	Texaco
	Quaker State
	Pennzoil
York Oil Co., Inc.	
Citgo (r,ur,p,up,sp,usp)	Citgo
Texaco (r,ur,up)	Havoline
	Pennzoil
	Valvoline

KEY: Gasoline
(r) Regular
(ur) Unleaded regular
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(up) Unleaded premium
(sp) Super premium
(usp) Unleaded super premium
(o) Other
(d) Diesel

Capital Spending in the Oil Industry: A 10-Year Overview, Revised and Updated

For the past 30 years, Chase Manhattan Bank has been publishing estimates of worldwide capital expenditures in the oil and gas industries. In 1987 and 1988, Chase Manhattan revised its data collection procedures and the new results are shown on this page. The new format reports only on exploration and production expenditures and on refinery expenditures. No longer available are the former estimates on pipelines, chemicals, marketing and transportation. To put the series on a firm footing, Chase Manhattan has revised all of the data back to 1977. The data below therefore are not compatible to information carried in the preceding issues of the NPN Factbook. Chase Manhattan said the new approach was necessary because, unlike the earlier days when a group of multi-national oil companies dominated the global industry, the roles of both production and consuming governments has increased and their presences are more noticeable in survey data.

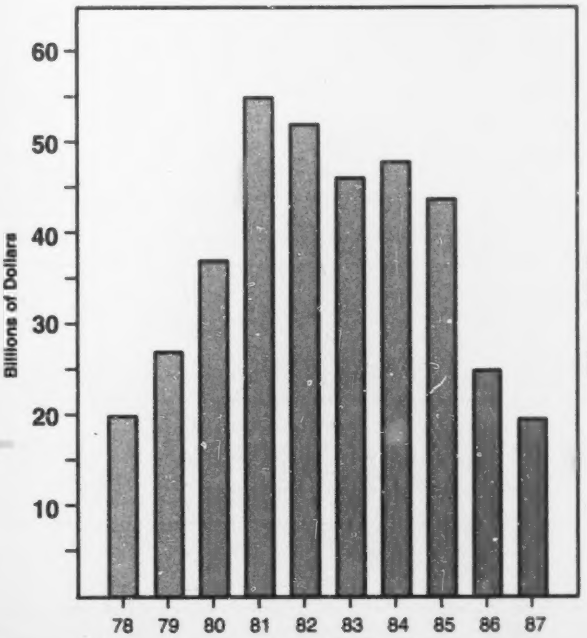
(Millions of Dollars)

	1987	1986	1985	1984	1983	1982	1981	1980	1979	1978	10-Year Totals
United States											
Crude Oil and Natural Gas	19,760	24,830	43,640	48,060	42,260	52,210	54,730	36,990	27,410	20,030	369,600
Refineries*	2,960	2,800	3,710	3,710	4,400	6,730	5,530	4,000	3,080	2,080	39,000
Total	**22,720**	**27,630**	**47,350**	**51,770**	**50,660**	**58,940**	**60,260**	**40,990**	**30,490**	**22,110**	**408,800**
*Includes natural gas liquid plants.											
North America											
Crude Oil and Natural Gas	25,690	31,210	52,430	57,550	53,070	58,820	64,230	49,710	35,410	26,330	454,450
Refineries*	4,570	4,900	7,040	6,740	6,120	8,860	8,460	6,220	6,510	4,110	63,530
Total	**30,260**	**36,110**	**59,470**	**64,020**	**59,190**	**67,680**	**72,690**	**55,930**	**41,920**	**30,440**	**517,980**
*Includes natural gas liquid plants.											
World											
Crude Oil and Natural Gas	47,020	54,470	77,370	83,900	83,160	91,410	90,700	72,100	53,030	41,000	694,160
Refineries*	11,160	10,000	12,050	12,430	12,820	17,660	17,100	14,030	12,930	9,310	129,490
Total	**61,070**	**67,280**	**91,000**	**98,500**	**100,860**	**115,370**	**114,100**	**90,240**	**68,600**	**53,380**	**823,650**

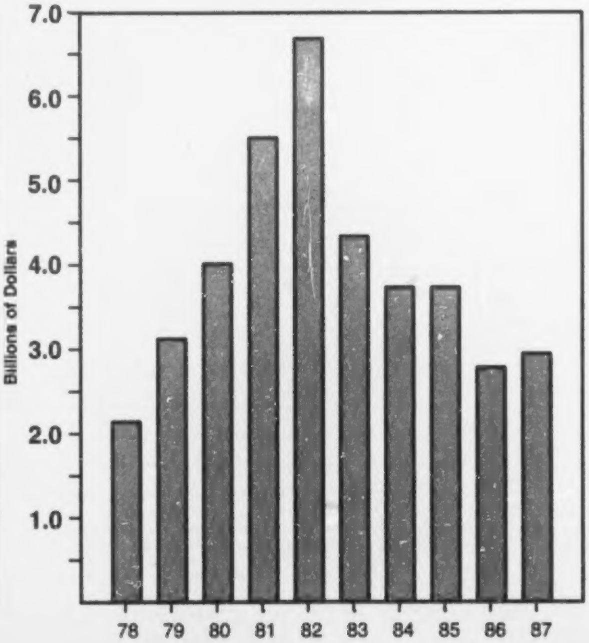
*Includes natural gas liquid plants but no Liquified Natural Gas plants; the world total includes the LNG plants, however.

Source: Capital Investments of The World Petroleum Industry 1985 and 1986, Chase Manhattan Bank, New York, published in October 1988.

U.S. Capital Expenditures Exploration and Production



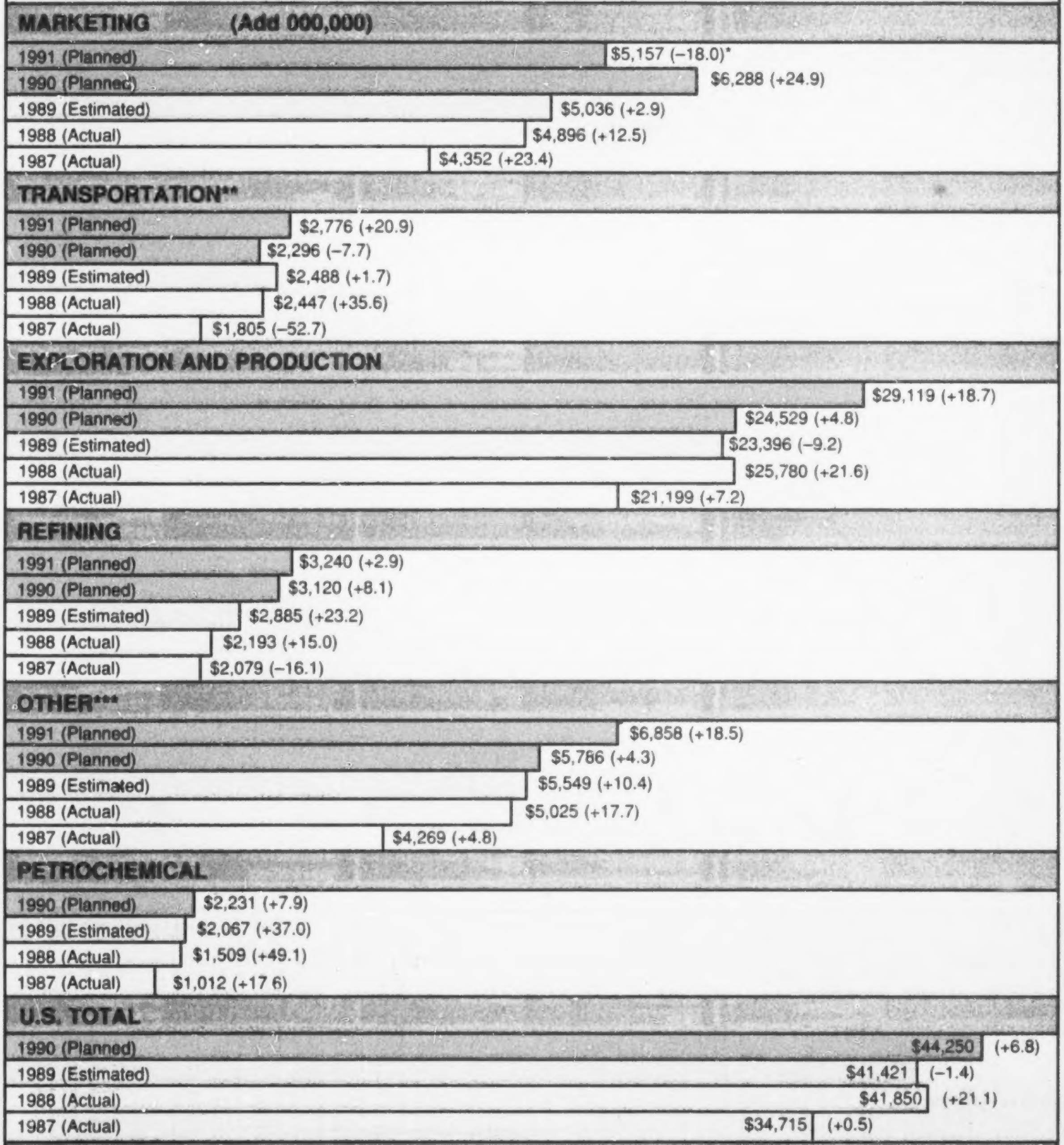
U.S. Capital Expenditures Refineries



Marketing Investments Peak in 1990

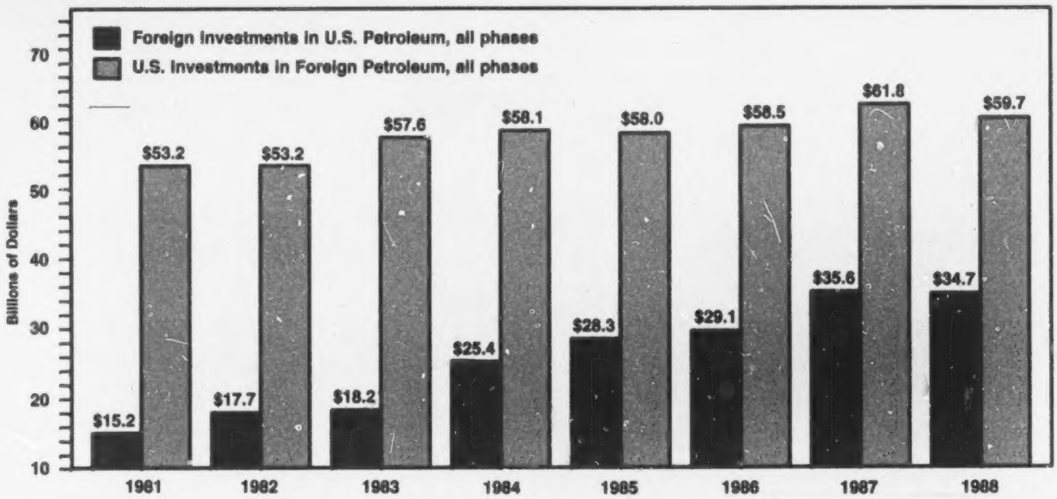
Capital spending in the downstream segment is expected to hit a peak in 1990, then fall a heady 18% in 1991, according to Data Resources, Inc., a subsidiary of McGraw-Hill, Inc. Data Resources discontinued the bi-annual survey in 1990 so this is the last one in the series started by McGraw-Hill about 25 years ago.

Market Spending Peaks in '90, Dives in '91



* Figures in parentheses indicate percentage change from previous year.
** Does not include gas pipelines.
*** Includes coal mining by oil companies.
X insufficient replies to make valid projections.
Source: Data Resources Inc./McGraw-Hill Inc. Thirty-sixth survey of Preliminary Plans for New Plants and Equipment 1987-1991, data collected in April-May and published Dec. 8, 1989.

Foreign and U.S. Investments in Petroleum



Despite several major domestic acquisitions by overseas-based companies in 1988, foreign direct investments (FDI) in U.S. petroleum declined from the previous year by almost $1-billion. It was the first decrease since 1976, according to the Energy Information Administration.

Foreign investments in the U.S. oil industry declined from the record high of $35.6-billion in 1987 to $34.7 billion in 1988. EIA reports the decrease was mainly due to BP America's repayment of $2.4-billion in notes to its U.K. parent, British Petroleum. Putting aside this outflow of capital, additions to FDI in U.S. petroleum increased from $0.9-billion to $1.5-billion between 1987 and 1988.

The biggest transaction for the year, of course, was Saudi Arabia's purchase of 50% of Texaco's downstream assets in 23 East and Gulf Coast states for $812-million. The transaction involved three refineries with a combined capacity of 615,000 b/d, 50 product terminals and 12,400 branded stations. Toronto-based Horsham Corp.'s acquisition of Clark Oil & Refining Co. for $650-million and Ultramar's $440-million purchase of Union Pacific's Wilmington, Calif. refinery were other major deals during the year.

About half of the value of the largest FDI-related transactions in 1988 were related to refining and marketing investments, continuing a trend to more foreign involvement in U.S. downstream activities. Total FDIs in refining amounted to 27% of U.S. crude distillation capacity in 1988, up from 21% the year before and less than 15% in 1984. Foreign companies now have a stake in almost 20% of domestic refineries. At the retail end, foreign investors now own or market through more than one third of U.S. branded retail outlets and control supply of almost one fourth of the gasoline consumed.

Foreign Direct Investments in the U.S.

(Billions of dollars)

Year	FDI in U.S. Petroleum	Total FDI in U.S.	% Petroleum of Total
1988	$34.7	$328.9	10.6%
1987	35.6	271.8	13.1
1986	29.1	220.4	13.2
1985	28.3	184.6	15.3
1984	25.4	164.6	15.4
1983	18.2	137.1	13.3
1982	17.7	124.7	14.2
1981	15.2	108.7	14.0

U.S. Direct Investments in Foreign Petroleum

Year	U.S. Direct Investment in Foreign Oil	Total U.S. Investment Abroad	% Petroleum of Total
1988	$59.7	$326.9	18.3%
1987	61.8	308.8	20.1
1986	58.5	259.8	22.5
1985	57.7	230.2	25.1
1984	58.1	211.5	27.5
1983	57.7	230.2	25.1
1982	57.8	207.8	27.8
1981	53.2	228.3	23.3

FDIs in Marketing, Refining and Production(a)

	1988	1987	1986
Branded retail outlets			
FDI companies...........	39,805	39,198	40,590
U.S. total	112,000	115,870	120,150
% FDI of U.S. total	36.5%	33.8%	33.8%
Gasoline supplied (in thousands of b/d)			
Total FDIs...............	1,751	1,586	1,565
U.S. total	7,336	7,206	7,034
% FDI of U.S. total	23.9%	23.2%	22.2%
Refineries			
Total FDIs...............	40	34	33
U.S. total	204	213	219
% FDI of U.S. total	19.6%	16.0%	13.4%
Crude distillation capacity (in thousands of b/d)			
Total FDIs...............	4,247	3,342	3,133
U.S. total	15,655	15,915	15,566
% FDI of U.S. total	27.1%	21.0%	20.1%
Crude oil and NGL production (in thousands of b/d)			
Total FDIs...............	1,523	1,613	1,512
U.S. total	10,289	10,008	10,289
% FDI of U.S. total	14.8%	16.2%	14.7%
Crude oil and NGL proved reserves (millions of bbl.)			
Total FDIs...............	6,433	6,453	5,626
U.S. total	35,063	35,403	35,054
% FDI of U.S. total	18.3%	18.2%	15.9%

(a) EIA has revised many of the totals originally published last year for 1987 in the categories shown. The revisions appear in the tables above.

How Oil Companies Handle

Company	TOTAL BRANDED RETAIL OUTLETS	NUMBER OF STATES WHERE GASOLINE BRAND IS MARKETED(a)	BRANDED SERVICE STATIONS			
			Supplied Directly	Supplied Through Jobbers and Commissioned Agents	Lessee/ Dealer-operated	Salary-operated
Ada Resources	77	1	23	27	50	0
Advanced Oil Co.	20	2	20	—	5	15
Agway Petroleum Corp.	220	9	76	21	21	74
American Petrofina, Inc.	3,177	23	157	2,385	10	129
American Refining Group, Inc.	8	1	8	0	0	1
Amoco Corp.	9,909	31	3,868	6,041	3,401	315
Anchor Gasoline Corp.	61	1	61	—	61	—
Arkansas Valley Petroleum	75	2	5	—	5	—
ARCO	1,699	5	1,313	386	N/A	N/A
Armour Oil Co.	62	6	62	—	—	62
Ashland Oil, Inc.	1,800	18	452	–	452	—
Aztex Enterprises	31	1	31	—	—	31
BP America, Inc.	7,464	28	2,320	5,144	1,185	865
Bagwell Oil Co., Inc.	27	2	12	—	3	—
E.M. Bailey	60	3	60	—	—	—
Bedford Valey Petroleum Corp.	51	3	—	48	42	—
Bell Fuels, Inc.	5	2	5	0	1	4
Best Oil Co.	17	2	12	5	—	17
Bostick Brothers, Inc.	19	2	11	—	11	—
Bray Terminals, Inc.	65	2	—	65	65	—
Brennan Petroleum Corp.	1	1	1	—	—	1
Browning Oil Co.	31	1	7	—	7	—
Buhrmaster Energy Group	3	1	—	3	—	—
Dennis K. Burke, Inc.	1	1	1	0	0	0
Campbell Oil Co.	72	1	27	—	27	—
Cannon Oil Corp.	17	3	17	—	—	17
Cal Oil Products Corp.	10	1	9	1	1	9
Cenex	972	14	961	11	7	61
Champlain Oil Co.	85	4	13	2	15	—
Chapman, Inc.	35	2	35	—	13	7
Chevron Corp.*	10,682	32	3,650	5,486	8,438	666
W.R. Childress Oil Co., Inc.	55	1	—	4	—	—
Circle K Corp.	898	23	N/A	—	—	—
Citgo Petroleum Corp.	8,463	42	N/A	N/A	—	—
Clark Oil & Refining Corp.	944	12	944	—	17	927
The Coastal Corp.	720	23	720	—	146	572
Coen Oil Co.	150	1	135	—	132	3
Colonial Oil Industries, Inc.	60	3	60	—	—	60
Comet Oil Co.	3	1	3	—	—	3
Commander Oil Corp.	—	—	—	—	—	—
Como Oil Co.	30	1	30	—	27	3
Conoco Inc.	4,915	37	526	4,389	4,389	526
Consumers Gasoline Stations Inc.	44	3	43	—	—	43
Consumers Oil	45	2	45	—	29	2
Convenient Petroleum Corp.						
Cook & Cooley, Inc.	76	1	—	—	—	—
Crown Central Petroleum Corp.	722	8	649	36	101	584
Crystal Petroleum	25	1	25	—	—	25
C.S.C. Oil Co.	13	2	8	—	—	8
Curtis Parker Oil Co. Inc.	17	1	—	12	11	1
Curt's Oil Co., Inc.	16	3	13	—	—	13
Dairy Mart Convenience Stores, Inc.	430	15	0	—	—	—
K.E. David, Ltd.	6	2	2	—	2	—
DeBlois Oil Co.	41	2	41	—	11	30
Delta Group, USA Inc.	42	2				
Diamond Shamrock Refining & Marketing Co.	1,947	8	654	1,250	—	654
Dickey Inc.	8	1	6	2	2	6
Drakes Refinery Stations, Inc.	6	1	6	—	—	—
East Coast Oil Corp.	41	1	41	—	—	41
Emro Marketing Co.	1,665	16	1,665	—	—	1,665
Engefield Oil Co.	246	2	246	—	195	51
Exxon Co., U.S.A.	12,091	38	4,122	7,969	2,844	683
Farm & Home Oil Co.	42	2	—	42	29	8
FKG Oil Co.,	50	6	50	—	—	50
Fleetman, Inc.	310	5	58	252	—	112
Flying J Inc.	115	23	115	—	28	—
Fortmeyer Inc.	1	1	1	—	—	—
Friends Convenience Stores	44	1	—	28	24	2
H.N. Funkhouser & Co.	25	1	4	—	3	1
Gasco Gasoline, Inc.	42	1	33	—	6	—
General Oil Co.	30	1	2	—	—	2

(a) Includes District of Columbia.

*Excludes Airport & Marine Outlets, New Car Dealerships, and Military Exchanges

Product Distribution

				BRANDED JOBBERS/COMMISSIONED AGENTS			
					Number selling . . .		
Commission-operated	Full-service only	Self-service only	Self-service/Full-service	Total	Gasoline only	Fuel Oil only	Gasoline/Fuel Oil
0	27	5	18	16	0	0	16
—	15	5	—	—	—	—	—
1	0	91	5	13	1	0	12
0	127	2,034	381	371	8	0	363
7	0	8	0	0	0	0	0
152	991	4,956	3,962	1,071	N/A	0	N/A
—	—	61	—	—	10	10	—
—	—	—	5	2	—	—	2
N/A	N/A	N/A	N/A	34	26	N/A	8
—	—	53	9	—	—	—	—
—	385	6	61	159	—	—	159
—	—	30	1	0	—	—	—
260	15	205	935	515	—	12	503
9	3	6	3	—	—	—	—
—	—	—	—	—	—	—	—
—	33	5	10	2	—	—	2
—	4	1	0	—	—	—	—
—	1	15	1	—	—	—	—
—	3	6	2	0	—	—	—
—	—	—	65	10	—	—	10
—	—	1	—	—	—	—	—
—	—	—	7	0	—	—	—
—	—	—	3	—	3	—	—
0	1	0	0	1	—	—	1
—	—	27	—	0	—	—	—
—	—	17	—	—	—	—	—
—	5	5	—	11	—	—	11
0	133	252	587	972	73	0	899
—	13	—	2	0	—	—	—
15	1	28	6	—	—	—	—
—	1,279	4,407	3,450	651	0	0	65
—	—	—	—	—	—	—	—
ALL	—	ALL	—	0	—	—	—
—	—	—	—	425	—	—	—
—	2	924	18	0	—	—	—
—	42	653	25	104	104	—	—
—	40	3	92	2	2	—	—
—	3	4	53	0	—	—	—
—	1	2	—	—	—	—	—
—	—	—	—	—	—	—	—
—	0	25	5	—	—	—	—
—	466	3,961	488	618	463	0	155
—	3	39	2	—	—	—	—
14	42	—	3	—	—	—	—
—	—	—	—	2	—	—	2
—	—	551	134	—	—	—	—
—	—	24	1	3	—	—	3
—	0	4	4	8	—	—	8
—	5	3	4	3	—	—	3
—	—	13	—	—	—	—	—
—	—	—	—	0	—	—	—
—	2	—	—	1	—	—	1
—	21	20	—	41	41	—	—
—	5	1,200	45	130	95	10	25
—	3	3	2	4	2	—	2
—	2	4	—	—	—	—	—
—	—	39	2	0	—	—	—
—	5	1,660	—	0	—	—	—
—	48	67	131	3	—	—	3
—	N/A	N/A	N/A	701	343	6	361
5	32	8	2	0	—	—	—
—	—	46	4	—	—	—	—
198	—	305	5	4	—	—	4
—	5	19	91	16	—	—	16
—	—	—	—	—	—	—	1
—	—	4	22	1	—	—	—
—	—	—	4	0	—	—	—
3	—	42	—	—	—	—	—
—	2	—	—	1	—	—	—

BULK PLANTS				TER[illegible]LS				
	Company-operated				Company-operated			
Total	Salary-operated	Commission-operated	Jobber-operated Bulk Plants	Total	Salary-operated	Commission-operated	Jobber-operated Terminals	Company
3	2	1	15	N/A	—	—	—	**Ada Resources**
—	—	—	—	—	—	—	—	**Advanced Oil Co.**
133	121	0	12	10	10	—	—	**Agway Petroleum Corp.**
0	0	0	185	7	7	0	1	American Petrofina, Inc.
0	0	0	0	1	1	0	0	American Refining Group, Inc.
0	N/A	0	1,781	83	83	—	N/A	Amoco Corp.
10	—	10	—	2	—	—	—	**Anchor Gasoline Corp.**
1	—	—	1	0	—	—	—	**Arkansas Valley Petroleum**
0	0	0	0	33	N/A	N/A	N/A	**ARCO**
—	—	—	—	—	—	—	—	Armour Oil Co.
136	5	131	—	32	32	—	—	Ashland Oil, Inc.
1	1	—	—	0	—	—	—	Aztex Enterprises
81	—	81	420	60	60	—	0	**BP America, Inc.**
2	2	—	—	1	1	—	—	**Bagwell Oil Co., Inc.**
4	—	4	—	—	—	—	—	**E.M. Bailey**
4	—	—	4	—	—	—	—	Bedford Valey Petroleum Corp.
1	1	0	—	1	1	0	—	Bell Fuels, Inc.
—	—	—	—	—	—	—	—	Best Oil Co.
3	3	—	0	1	1	—	0	**Bostick Brothers, Inc.**
0	—	—	—	3	3	—	—	**Bray Terminals, Inc.**
—	—	—	—	—	—	—	—	**Brennan Petroleum Co.**
2	2	—	—	0	—	—	—	Browning Oil Co.
—	—	—	—	—	—	—	—	Buhrmaster Energy Group
1	1	—	—	0	—	—	—	Dennis K. Burke, Inc.
4	4	—	—	0	—	—	—	**Campbell Oil Co.**
—	—	—	—	—	—	—	—	**Cannon Oil Corp.**
1	1	—	—	0	—	—	—	**Cel Oil Products Corp.**
—	—	—	837	7	6	1	0	Cenex
0	—	—	—	0	—	—	—	Champlain Oil Co.
—	—	—	—	—	—	—	—	Chapman, Inc.
868	0	0	868	118	87	1	30	**Chevron Corp.**
—	—	—	—	—	—	—	—	**W.R. Childress Oil Co., Inc.**
0	—	—	—	0	—	—	—	**Circle K Corp.**
0	—	—	—	44	—	—	—	Citgo Petroleum Corp.
0	—	—	—	13	13	—	—	Clark Oil & Refining Corp.
10	2	8	—	237	49	188	0	The Coastal Corp.
1	—	—	0	0	—	—	0	**Coen Oil Co.**
1	—	—	—	2	2	—	—	**Colonial Oil Industries, Inc.**
—	—	—	—	—	—	—	—	**Comet Oil Co.**
3	3	—	—	3	3	—	—	Commander Oil Corp.
—	—	—	—	—	—	—	—	Como Oil Co.
126	0	0	126	401	51	350	0	Conoco Inc.
—	—	—	—	—	—	—	—	**Consumers Gasoline Stations Inc.**
—	—	—	—	1	1	—	—	**Consumers Oil**
								Convenient Petroleum Corp.
0	—	—	—	0	—	—	—	Cook & Cooley, Inc.
—	0	—	—	10	10	—	—	Crown Central Petroleum Corp.
4	1	3	0	0	—	—	—	Crystal Petroleum
0	—	—	—	0	—	—	—	**C.S.C. Oil Co.**
3	1	2	1	0	—	—	—	**Curtis Parker Oil Co. Inc.**
—	—	—	—	—	—	—	—	**Curt's Oil Co., Inc.**
0	—	—	—	0	—	—	—	Dairy Mart Convenience Stores, Inc.
0	—	—	—	3	3	—	—	K.E. David, Ltd.
2	2	—	—	1	1	—	—	DeBlois Oil Co.
								Delta Group, USA Inc.
—	—	—	—	13	13	—	—	**Diamond Shamrock Refining & Marketing Co.**
2	2	—	—	1	1	—	—	**Dickey Inc.**
—	—	—	—	—	—	—	—	Drakes Refinery Stations, Inc.
0	—	—	—	0	—	—	—	East Coast Oil Corp.
0	—	—	—	0	—	—	—	Emro Marketing Co.
9	8	1	1	—	—	—	—	**Engefield Oil Co.**
0	—	—	—	59	59	0	—	**Exxon Co., U.S.A.**
5	5	—	—	1	—	—	—	**Farm & Home Oil Co.**
—	—	—	—	—	—	—	—	FKG Oil Co.
6	1	—	5	2	1	—	1	Fleetman, Inc.
0	—	—	—	3	—	—	0	Flying J Inc.
—	—	—	—	—	—	—	—	**Fortmeyer, Inc.**
2	2	—	—	0	—	—	—	**Friends Convenience Stores**
3	3	—	—	0	—	—	—	**H.N. Funkhouser & Co.**
N/A	—	—	—	N/A	—	—	—	Gasco Gasoline, Inc.
1	1	—	—	0	—	—	—	General Oil Co.

How Oil Companies Handle

Company	TOTAL BRANDED RETAIL OUTLETS	NUMBER OF STATES WHERE GASOLINE BRAND IS MARKETED	BRANDED SERVICE STATIONS			
			Supplied Directly	Supplied Through Jobbers and Commissioned Agents	Lessee/ Dealer-operated	Salary-operated
Getty Petroleum Corp.	2,240	13	1,264	376	1,409	75
Giant Industries, Inc.	27	3	—	—	—	—
Global Petroleum Corp.	137	10	137	—	117	20
Golden Gate Petroleum Co.	4	1	—	4	3	1
Golub Corp.	12	2	12	—	12	—
Gresham Petroleum Co.	30	2	30	—	—	—
Jack Griffith Petroleum	13	1	13	—	—	13
Gulf Oil	4,091	14	1,718	2,373	1,133	585
Harris Enterprises Inc.	28	2	28	—	26	2
Hawaiian Independent Refinery	25	1	25	—	—	25
Highway Oil, Inc.	208	22	208	—	—	125
Angus I. Hines, Inc.	55	3	—	8	6	2
Barney Holland Oil Co.	90	1	22	—	22	—
Horkey Oil Co., Inc.	41	1	13	—	13	—
Hough Petroleum	62	2	62	—	56	—
Huck's Convenience Stores	100	5	100	—	—	—
Hudson Oil Co.	11	2	11	—	—	11
Hull Oil Co.	31	2	28	3	13	9
Hunt Refining Co.	130	2	2	—	20	110
J. & L. Oil, Inc.	52	3	52	—	2	50
Jacobus Petroleum Products, Inc.	12	1	0	—	—	—
Johnson Products, Inc.	69	6	42	3	—	45
JS & J Service, Inc.	3	2	—	—	—	3
Kelley Williamson Co.	35	2	—	8	8	—
Kelso Oil Co. Inc. dba Pride Oil	12	1	12	—	10	2
Kent Distributors, Inc.	18	1	7	7	0	0
Kerr-McGee Refining Corp.	1,786	20	68	1,718	1,179	535
Kimber Petroleum Corp.	75	1	75	—	60	15
Krause Gentle Oil Co.	137	6	—	—	—	—
Kwik Shop, Inc.	210	5	188	—	—	—
Lakeside Oil Co., Inc.	130	1	—	25	—	—
Carlos R. Leffler	200	1	120	—	60	60
H.C. Lewis Oil Co.	30	1	15	—	15	0
Lyden Co.	150	1	—	—	80	70
M.G.S. Oil, Petroleum—Gen. Trading Corp.	17	1	17	—	5	10
Majik Market Mgmt. Corp.	341	11	300	—	—	300
Marathon Petroleum Co.	2,516	8	540	1,976	540	—
Martin Oil Marketing, Ltd.	43	2	43	—	—	43
Mauger & Co.	40	1	—	—	—	—
McCall Oil Co.	—	—	—	—	—	—
McDowell Oil Service Inc.	30	1	30	—	—	28
McLeieer Oil, Inc.	50	1	—	—	—	—
Merritt Truax, Inc.	41	1	41	—	—	—
Mid-Continent Systems, Inc.	35	3	35	—	—	35
Mid-Missouri Oil Co.	15	1	3	—	3	—
Mid-States Petroleum	121	3	121	—	78	38
Miller Enterprises, Inc.	118	1	92	26	0	92
Miller Oil Co.	80	2	—	—	15	9
Mini-Mart Inc.	29	4	—	—	—	—
Missouri Terminal Oil Co.	30	1	2	4	3	—
Mobil Oil Corp.	9,486	33	4,372	5,114	2,366	966
Munford Inc.	95	5	70	25	—	25
Munro Petroleum Terminal Corp.	41	1	7	—	6	1
Murphy Oil USA, Inc.	629	12	400	229	173	—
Musket Corp.	123	6	123	—	—	123
National Oil & Gas Inc.	87	2	48	5	53	—
Neal, Inc.	26	1	0	—	—	—
Nella Oil Co.	27	2	27	—	—	27
Newell Oil Co., Inc.	15	1	—	15	10	—
Olympian Oil Co.	40	1	40	—	24	16
Pacific Northern Oil Co.	60	1	60	—	—	—
Pal Oil Company Inc.	59	1	56	1	45	9
Parker Oil Co., Inc.	129	3	8	—	8	—
Patterson Oil Co., Inc.	36	1	36	—	21	15
PDQ Food Stores, Inc.	69	4	—	—	—	—
Peavy Oil Co.	9	1	9	—	3	3
Pennzoil Products Co.	543	8	69	426	49	20
Petroleum Marketers, Inc.	137	2	137	—	83	54
Petroleum Products Corp.	57	2	—	49	49	—
Petroleum Sales & Service	40	1	28	—	17	—

Product Distribution (cont'd.)

				BRANDED JOBBERS/COMMISSIONED AGENTS			
					Number selling . . .		
Commission-operated	Full-service only	Self-service only	Self-service/ Full-service	Total	Gasoline only	Fuel Oil only	Gasoline/ Fuel Oil
156	1,230	164	246	592	592	N/A	N/A
—	27	—	—	0	—	—	—
—	95	42	—	—	—	—	—
—	—	—	4	N/A	—	—	—
—	3	9	—	0	—	—	—
—	—	—	—	—	—	—	—
—	—	13	—	—	—	—	—
—	2,250	1,023	818	140	84	—	56
—	—	—	28	0	—	—	—
—	—	25	—	0	—	—	—
83	—	—	—	0	—	—	—
—	6	—	2	—	—	—	—
—	5	6	11	1	—	—	1
—	1	—	12	—	—	—	—
6	62	—	—	N/A	—	—	—
—	—	—	—	104	104	—	—
—	—	3	8	—	—	—	—
9	0	27	4	0	—	—	—
—	—	130	—	25	—	—	25
—	1	51	—	0	—	—	—
—	—	—	—	8	—	3	5
—	23	—	22	24	24	—	—
—	—	3	—	0	—	—	—
—	3	—	5	2	—	—	2
—	—	11	1	—	—	—	—
0	0	14	0	7	—	—	7
72	161	732	833	477	65	2	410
—	75	—	—	0	—	—	—
—	—	—	—	4	—	—	4
—	—	188	—	0	—	—	—
—	—	—	25	0	—	—	—
—	20	85	15	5	—	—	5
0	5	—	10	0	—	—	—
—	—	70	80	—	—	—	—
2	10	2	7	—	—	—	—
—	—	300	—	0	—	—	—
—	302	453	1,761	257	—	—	257
—	—	43	—	0	—	—	—
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
2	—	30	—	—	—	—	—
—	—	—	—	—	—	—	—
—	41	—	—	—	—	—	—
—	3	32	—	0	—	—	—
—	—	—	3	0	—	—	—
5	46	44	31	7	—	1	6
26	—	118	—	1	—	—	—
—	2	7	—	—	—	—	—
—	—	—	—	0	—	—	—
—	2	1	3	3	0	0	3
0	N/A	N/A	N/A	1,100	0	535	565
—	—	95	—	—	95	—	—
—	1	—	6	—	—	—	—
—	—	500	129	0	—	—	—
—	—	123	—	—	—	—	—
—	5	15	33	21	—	—	21
—	—	—	—	—	—	—	—
—	—	27	—	0	—	—	—
5	1	6	8	—	—	—	—
—	—	40	—	—	—	—	—
—	60	—	—	—	—	—	—
3	16	38	3	0	—	—	—
—	—	—	8	—	—	—	—
0	8	16	12	0	—	—	—
—	—	69	—	—	—	—	—
3	—	—	—	—	—	—	—
426	50	290	145	93	2	0	91
—	—	130	7	0	—	—	—
—	8	2	47	11	—	—	11
11	28	—	—	0	—	—	—

BULK PLANTS				TERMINALS				
	Company-operated				Company-operated			
Total	Salary-operated	Commission-operated	Jobber-operated Bulk Plants	Total	Salary-operated	Commission-operated	Jobber-operated Terminals	Company
—	—	—	—	24	—	—	—	**Getty Petroleum Corp.**
—	—	—	—	—	—	—	—	**Giant Industries, Inc.**
—	—	—	—	44	5	—	—	**Global Petroleum Corp.**
7	7	—	—	0	—	—	—	Golden Gate Petroleum Co.
0	—	—	—	0	—	—	—	Golub Corp.
—	—	—	—	—	—	—	—	Gresham Petroleum Co.
—	—	—	—	—	—	—	—	**Jack Griffith Petroleum**
—	—	—	—	92	19	—	70	**Gulf Oil**
3	—	—	—	0	—	—	—	**Harris Enterprises Inc.**
0	—	—	—	4	4	—	—	Hawaiian Independent Refinery
0	—	—	—	0	—	—	—	Highway Oil, Inc.
4	4	—	—	—	—	—	—	Angus I. Hines, Inc.
2	1	—	1	0	—	—	—	**Barney Holland Oil Co.**
2	2	—	—	0	—	—	—	**Horkey Oil Co., Inc.**
1	1	—	—	N/A	N/A	—	—	**Hough Petroleum**
0	—	—	—	0	—	—	—	Huck's Convenience Stores
—	—	—	—	—	—	—	—	Hudson Oil Co.
1	1	—	—	0	—	—	—	Hull Oil Co.
0	—	—	—	4	2	—	25	**Hunt Refining Co.**
0	—	—	—	0	—	—	—	**J. & L. Oil, Inc.**
10	9	1	—	2	2	—	—	**Jacobus Petroleum Products, Inc.**
0	—	—	—	0	—	—	—	Johnson Products, Inc.
0	—	—	—	0	—	—	—	JS & J Service
4	2	2	—	—	—	—	—	Kelley Williamson Co.
—	—	—	—	—	—	—	—	**Kelso Oil Co., Inc.**
0	—	—	—	0	—	—	—	**Kent Distributors, Inc.**
324	1	0	323	18	16	0	2	**Kerr-McGee Refining Corp.**
0	—	—	—	0	—	—	—	Kimber Petroleum Corp.
0	—	—	—	0	—	—	—	Krause Gentle Oil Co.
0	—	—	—	0	—	—	—	Kwik Shop, Inc.
0	—	—	—	3	—	—	—	**Lakeside Oil Co., Inc.**
3	3	—	3	3	3	—	3	**Carlos R. Leffler**
1	1	—	—	0	—	—	—	**H.C. Lewis Oil Co.**
3	—	—	—	—	—	—	—	Lyden Co.
—	—	—	—	—	—	—	—	M.G.S. Oil, Petroleum & Gen. Trading Corp.
0	—	—	—	0	—	—	—	**Majik Market Mgmt. Corp.**
339	—	—	293	53	—	—	—	**Marathon Petroleum Co.**
0	—	—	—	3	3	—	—	**Martin Oil Marketing, Ltd.**
—	—	—	—	—	—	—	—	Mauger & Co.
—	—	—	—	2	2	—	—	McCall Oil Co.
0	—	—	—	—	—	—	—	McDowell Oil Service Inc.
3	—	—	3	—	—	—	—	**McLeieer Oil, Inc.**
4	4	—	—	0	—	—	—	**Merritt Truax, Inc.**
1	1	—	—	0	—	—	—	**Mid-Continent Systems, Inc.**
0	—	—	—	0	—	—	—	Mid-Missouri Oil Co.
11	7	0	4	1	—	1	—	Mid-States Petroleum
—	—	—	—	—	—	—	—	Miller Enterprises, Inc.
3	—	—	—	1	—	—	1	**Miller Oil Co.**
0	—	—	—	0	—	—	—	**Mini-Mart Inc.**
2	2	—	2	1	1	—	—	**Missouri Terminal Oil Co.**
3	0	1	2	64	64	0	0	Mobil Oil Corp.
—	—	—	—	—	—	—	—	Munford Inc.
1	1	—	—	1	1	—	—	Munro Petroleum Terminal Corp.
0	—	—	—	8	—	—	—	**Murphy Oil USA, Inc.**
—	—	—	—	—	—	—	—	**Musket Corp.**
17	—	14	3	0	—	—	—	**National Oil & Gas Inc.**
—	—	—	—	—	—	—	—	Neal, Inc.
0	—	—	—	0	—	—	—	Nella Oil Co.
1	1	—	—	—	—	—	—	Newell Oil Co., Inc.
—	—	—	—	—	—	—	—	**Olympian Oil Co.**
—	—	—	—	—	—	—	—	**Pacific Northern Oil Co.**
2	2	—	—	0	—	—	—	**Pal Oil Company Inc.**
11	11	—	—	1	—	—	—	Parker Oil Co., Inc.
1	—	—	—	0	—	—	—	Patterson Oil Co., Inc.
—	—	—	—	—	—	—	—	PDQ Food Stores, Inc.
—	—	—	—	—	—	—	—	**Peavy Oil Co.**
22	2	0	20	2	2	0	0	**Pennzoil Products Co.**
7	7	—	N/A	0	—	—	—	**Petroleum Marketers, Inc.**
—	—	—	—	8	—	—	—	Petroleum Products Corp.
0	—	—	—	0	—	—	—	Petroleum Sales & Service

Company	TOTAL BRANDED RETAIL OUTLETS	NUMBER OF STATES WHERE GASOLINE BRAND IS MARKETED (a)	BRANDED SERVICE STATIONS			
			Supplied Directly	Supplied Through Jobbers and Commissioned Agents	Lessee/ Dealer-operated	Salary-operated
Phillips 66 Co.	8,656	35	—	—	—	—
Piasa Motor Fuels, Inc.	21	2	21	—	15	6
Pride of Texas Dist. Co.	41	1	29	10	38	1
Pride Oil Co., Inc. (Miss.)	17	2	17	—	—	2
Private Brand Services Inc.	1	1	—	—	—	—
Promana, Inc.	25	1	25	—	—	25
Purity Oil Co.	16	1	14	2	3	10
Quincy Oil	0	—	0	—	—	—
Racetrac Petroleum, Inc.	309	13	309	—	139	180
Red Hed Oil Co., Inc.	38	1	4	0	3	0
Reinauer Petroleum Co.	7	1	7	—	7	—
Remote Services, Inc.	249	8	0	0	—	—
Republic Oil Corp.	5	1	—	5	—	5
Reynolds Industries, Inc.	5	2	5	—	—	5
River Oil Co.	40	2	9	—	9	—
Roach Oil Co.	10	2	9	—	4	5
Robinson Oil Co., Inc.	25	1	25	—	—	25
Royster Oil Co., Inc.	32	1	32	—	17	1
Russell Petroleum Corp.	19	1	—	—	—	—
Sahara Oil Co., Inc.	21	1	—	18	4	17
Santee Oil Co., Inc.	12	1	—	—	4	—
SATCO	33	2	5	0	1	4
Save-X, USA, Inc.	0	—	—	—	—	—
SCASCO	40	1	21	—	10	2
Schaeffer Oil, Inc.	7	2	—	—	—	—
Sears Oil Co., Inc.	11	1	6	—	—	6
Shay Oil Co., Inc.	20	1	20	—	2	18
Shelby Petroleum Corp.	20	2	20	—	—	—
Shell Oil Co.	9,763	40	4,465	N/A	4,183	282
Shotmeyer Bros. Petroleum Corp.	32	1	32	—	17	—
SICO Co.	131	3	131	0	57	23
Simmons Oil Corp.	—	—	—	—	—	—
Simon Oil Co. Inc.	100	1	90	—	90	—
R.L. Smeltz Oil Co., Inc.	20	1	—	20	3	—
Smith-Schafer Oil Co.	5	1	5	—	—	5
SOS Oil Corp.	50	1	45	—	45	—
Southern Counties Oil Co.	90	1	90	—	80	10
Southern Oil Co., Inc.	8	1	—	4	2	1
The Spencer Companies	51	1	6	—	4	—
Star Oil Co.	22	1	16	2	18	—
Stevens Oil Co.	47	1	15	—	15	0
Sugarcreek Corp.	300	2	144	6	90	6
Sumrall Oil Services, Inc.	8	1	—	—	—	—
Sun Refining & Marketing Co.	6,445	28	2,574	3,480	5,682	372
Sunshine Jr. Stores, Inc.	303	5	267	36	—	—
T.J. Terminals Corp.	2	1	2	0	1	—
Taylor Oil Co.	55	2	55	—	—	—
Texaco Inc.	16,890	49	3,200	13,690	1,170	840
Thornhill Oil Co., Inc.	28	1	—	28	18	10
Thornton Oil Corp.	96	6	—	—	—	96
Thrifty Oil Co.	155	1	155	—	—	155
Time Saver Store	115	1	—	—	—	—
Tooley Oil Co.	7	1	7	—	—	7
Total Petroleum, Inc.	2,776	22	620	2,156	18	620
Transit Oil Co.	—	2	18	—	—	16
Trenton Oil Co.	31	1	31	—	17	—
Ultra Power Corp.	12	1	—	9	8	3
Ultramar (formerly Beacon)	350	1	245	105	—	175
United Refining Co.	324	3	—	—	—	—
Unocal Corp.*	7,316	43	2,632	4,684	2,532	94
V-1 Oil Co.	26	5	—	—	4	22
Vista Marketing Group Ltd.	16	4	16	—	—	16
Waco Oil Co. Inc.	16	2	16	—	—	16
Wake Up Oil Co., Inc.	38	1	38	—	—	38
Warelubco, Inc.	96	5	96	0	1	95
Warren Equities, Inc.	268	8	268	—	81	187
Webster Oil Co.	23	1	3	—	3	—
Wesson inc.	40	1	40	—	25	12
A.T. Williams Oil Co.	91	2	91	—	—	91
J.H. Williams Oil Co., Inc.	80	1	34	2	20	2
The Wills Group, Inc.	130	3	80	—	35	25
Wooten Oil Co.	33	2	5	—	5	—
Wright Industries, Inc.	18	1	18	—	18	—
York Oil Co., Inc.	10	1	9	—	—	9

*Does not include Unocal's Unoven joint venture.

				BRANDED JOBBERS/COMMISSIONED AGENTS			
					Number selling . . .		
Commission-operated	Full-service Only	Self-service Only	Self-service/Full-service	Total	Gasoline Only	Fuel Oil Only	Gasoline/Fuel Oil
—	—	—	—	1,155	26	0	1,129
—	—	6	15	0	—	—	—
0	—	—	10	1	1	—	—
15	—	16	1	0	—	—	—
—	—	—	—	—	—	—	—
—	—	25	—	0	—	—	—
3	—	14	2	0	—	—	—
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
1	—	—	4	7	—	—	7
—	6	1	—	—	—	—	—
—	—	—	—	0	—	—	—
—	—	5	—	—	—	—	—
—	4	1	—	—	—	—	—
—	—	—	9	1	1	—	—
—	2	1	6	0	—	—	—
—	—	25	—	0	—	—	—
—	5	7	20	0	—	—	—
—	—	—	—	12	11	—	—
—	2	18	1	21	21	—	—
—	—	—	4	—	—	—	—
0	5	0	0	0	0	0	0
—	—	—	—	3	3	—	—
—	4	9	8	—	—	—	—
—	—	—	—	1	—	—	1
—	—	6	—	N/A	—	—	—
—	—	20	—	—	20	—	—
—	20	—	—	N/A	—	—	—
—	219	1,707	2,539	409	N/A	N/A	N/A
15	32	—	—	0	—	—	—
51	40	70	21	0	—	—	—
—	—	—	—	—	—	—	—
—	50	15	25	1	—	—	1
—	9	3	8	—	—	—	—
—	—	5	—	0	—	—	—
—	5	—	40	—	—	—	—
—	0	90	—	0	—	—	—
1	3	—	1	N/A	—	—	—
2	2	—	4	2	—	—	—
—	—	7	11	0	—	—	—
0	0	0	15	0	—	—	—
54	85	30	35	5	—	2	3
—	—	—	—	—	—	—	—
N/A	N/A	N/A	N/A	3,480	N/A	N/A	N/A
36	—	303	—	N/A	—	—	—
—	2	—	—	—	—	—	—
55	—	55	—	0	—	—	—
310	1,700	9,290	5,900	1,297	0	300	997
—	—	28	6	—	—	—	—
—	2	94	—	0	—	—	—
—	—	155	—	0	—	—	—
—	—	—	—	0	—	—	—
—	—	7	—	N/A	—	—	—
—	2	608	10	455	195	0	250
—	—	18	—	1	—	—	—
14	31	—	—	N/A	—	—	—
1	3	9	—	24	23	—	1
—	—	350	—	50	—	—	50
—	—	—	—	—	—	—	—
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
—	—	21	—	N/A	—	—	—
—	—	16	—	0	—	—	—
—	3	13	—	—	—	—	—
—	1	5	32	0	—	—	—
—	0	23	73	0	—	—	—
—	51	161	55	—	—	—	—
—	—	—	3	—	—	—	—
3	10	15	15	0	—	—	—
—	—	91	—	—	—	—	—
0	1	2	33	1	—	—	1
20	2	20	58	1	—	—	1
—	4	—	1	0	—	—	—
—	—	—	18	0	—	—	—
—	—	9	—	0	—	—	—

BULK PLANTS				TERMINALS				
	Company-operated				Company-operated			
Total	Salary-operated	Commission-operated	Jobber-operated Bulk Plants	Total	Salary-operated	Commission-operated	Jobber-operated Terminals	Company
—	—	—	—	—	—	—	—	Phillips 66 Co.
1	1	—	—	0	—	—	—	Piasa Motor Fuels, Inc.
1	—	—	—	2	—	—	—	Pride of Texas Dist. Co.
0	—	—	—	0	—	—	—	Pride Oil Co., Inc. (Miss.)
—	—	—	—	—	—	—	—	Private Brand Services Inc.
2	2	—	—	2	2	—	—	Promana, Inc.
0	—	—	—	0	—	—	—	Purity Oil Co.
8	1	7	0	1	1	—	—	Quincy Oil
—	—	—	—	—	—	—	—	Racetrac Petroleum, Inc.
1	1	—	—	0	—	—	—	Red Hed Oil Co., Inc.
—	—	—	—	—	—	—	—	Reinauer Petroleum Co.
0	—	—	—	0	—	—	—	Remote Services, Inc.
—	—	—	—	—	—	—	—	Republic Oil Corp.
—	—	—	—	—	—	—	—	Reynolds Industries, Inc.
3	2	1	—	0	—	—	—	River Oil Co.
1	1	—	—	0	—	—	—	Roach Oil Co.
0	—	—	—	0	—	—	—	Robinson Oil Co., Inc.
3	3	—	—	0	—	—	—	Royster Oil Co., Inc.
1	1	—	—	1	1	—	—	Russell Petroleum Corp.
2	—	2	—	0	—	—	—	Sahara Oil Co., Inc.
2	2	—	—	—	—	—	—	Santee Oil Co., Inc.
0	0	0	0	0	0	0	0	SATCO
1	1	—	—	0	—	—	—	Save-X, USA, Inc.
5	—	—	—	—	—	—	—	SCASCO
—	—	—	—	—	—	—	—	Schaeffer Oil, Inc.
N/A	—	—	—	—	4	—	0	Sears Oil Co., Inc.
—	1	—	1	—	—	—	0	Shay Oil Co., Inc.
N/A	—	—	—	N/A	—	—	—	Shelby Petroleum Corp.
0	0	—	474	107	72	35	N/A	Shell Oil Co.
1	1	—	—	0	—	—	—	Shotmeyer Bros. Petroleum Corp.
11	11	0	0	1	1	0	0	SICO Co.
1	—	—	—	1	—	—	—	Simmons Oil Corp.
0	—	—	—	N/A	—	—	—	Simon Oil Co. Inc.
—	—	—	—	—	—	—	—	R.L. Smeltz Oil Co., Inc.
0	—	—	—	0	—	—	—	Smith-Shafer Oil Co.
1	1	—	—	—	—	—	—	SOS Oil Corp.
3	3	—	—	0	—	—	—	Southern Counties Oil Co.
1	—	—	—	N/A	—	—	—	Southern Oil Co., Inc.
0	—	—	—	0	—	—	—	The Spencer Companies, Inc.
3	—	—	3	0	—	—	—	Star Oil Co.
1	1	—	—	0	—	—	—	Stevens Oil Co.
13	11	—	2	3	3	—	—	Sugarcreek Corp.
—	—	—	—	—	—	—	—	Sumrall Oil Services, Inc.
N/A	—	—	—	37	N/A	N/A	N/A	Sun Refining & Marketing Co.
N/A	—	—	—	N/A	—	—	—	Sunshine Jr. Stores, Inc.
—	—	—	—	—	—	—	—	T.J. Terminals
0	—	—	—	2	2	—	—	Taylor Oil Co.
1,268	0	0	1,268	68	67	0	1	Texaco Inc.
4	4	—	—	0	—	—	—	Thornhill Oil Co., Inc.
0	—	—	—	0	—	—	—	Thornton Oil Corp.
0	—	—	—	0	—	—	—	Thrifty Oil Co.
0	—	—	—	0	—	—	—	Time Saver Store
N/A	—	—	—	N/A	—	—	—	Tooley Oil Co.
189	2	—	187	10	5	—	5	Total Petroleum, Inc.
—	—	—	—	—	—	—	—	Transit Oil Co.
N/A	—	—	—	N/A	—	—	—	Trenton Oil Co.
—	—	—	0	—	—	—	0	Ultra Power Corp.
0	—	—	—	0	—	—	—	Ultramar
—	—	—	—	—	—	—	—	United Refining Co.
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Unocal Corp.
N/A	—	—	—	N/A	—	—	—	V-1 Oil Co.
0	—	—	—	0	—	—	—	Vista Marketing Group Ltd.
—	—	—	—	—	—	—	—	Waco Oil Co., Inc.
0	—	—	—	0	—	—	—	Wake Up Oil Co., Inc.
1	1	—	—	0	—	—	—	Warelubco, Inc.
8	8	—	—	1	1	—	—	Warren Equities, Inc.
1	1	—	—	—	—	—	—	Webster Oil Co.
1	1	—	—	0	—	—	—	Wesson, Inc.
—	—	—	—	—	—	—	—	A.T. Williams Oil Co.
4	—	1	—	0	—	—	—	J.H. Williams Oil Co., Inc.
10	9	1	N/A	1	1	—	N/A	The Wills Group, Inc.
1	1	—	—	0	—	—	—	Wooten Oil Co.
0	—	—	—	0	—	—	—	Wright Industries, Inc.
1	1	—	—	0	—	—	—	York Oil Co., Inc.

Branded Retail Outlets

Company	TOTAL BRANDED RETAIL OUTLETS	NUMBER OF STATES WHERE GASOLINE BRAND IS MARKETED	New England						Middle Atlantic		
			Maine	N.H.	Vt.	Mass.	R.I.	Conn.	N.Y.	N.J.	Pa.
Advanced Oil Co.	20	2	—	—	—	—	—	—	12	8	—
Agway Petroleum Corp.	220	9	2	6	7	14	1	3	131	11	40
American Petrofina	3,177	23	—	—	—	—	—	—	—	—	—
American Refining Group, Inc.	8	1	—	—	—	—	—	—	—	—	8
Amoco Corp.	9,909	31	—	—	—	—	—	43	323	323	435
Armour Oil Co.	62	6	—	—	—	—	—	—	—	—	—
Ashland Oil, Inc.	1,800	18	—	—	—	—	—	—	—	—	33
Aztex Enterprises	31	1	—	—	—	—	—	—	—	—	—
BP America (Ohio)	7,464	26	1	47	32	75	—	51	10	90	310
Bagwell Oil Co., Inc.	27	2	—	—	—	—	—	—	—	—	
Bedford Valley Petroleum Corp.	51	3	—	—	—	—	—	—	—	—	26
Best Oil Co.	17	2	—	—	—	—	—	—	—	—	16
Bostick Brothers, Inc.	19	2	—	—	—	—	—	—	—	—	—
Bray Terminals, Inc.	65	2	—	—	10	—	—	—	55	—	—
Browning Oil Co.	31	1	—	—	—	—	—	—	—	—	—
Buhrmaster Energy Group	3	1	—	—	—	—	—	—	3	—	—
Dennis K. Burke, Inc.	1	1	—	—	—	1	—	—	—	—	—
Campbell Oil Co.	72	1	—	—	—	—	—	—	—	—	—
Cannon Oil Corp.	17	3	—	—	—	—	—	—	—	—	—
Cel Oil Products Corp.	10	1	—	—	—	—	—	—	—	—	—
CENEX	972	14	—	—	—	—	—	—	—	—	—
Champlain Oil Co.	85	4	—	8	71	1	—	—	5	—	—
Chevron Corp.*	10,682	33	—	—	—	—	—	—	—	—	3
Circle K. Corp.	898	23	1	—	—	4	—	2	—	—	—
CITGO	8,463	42	165	135	75	304	46	217	592	175	392
Clark Oil & Refining Corp.	944	12	—	—	—	—	—	—	—	—	5
The Coastal Corp.	720	23	—	—	—	2	—	—	—	42	6
The Coen Company	150	1	—	—	—	—	—	—	—	—	—
Colonial Oil Industries, Inc.	60	3	—	—	—	—	—	—	—	—	—
Comet Oil Co.	3	2	—	—	—	—	—	—	—	—	—
Conoco Inc.	5,484	37	—	—	—	—	—	—	—	—	13
Consumers Gasoline Stations, Inc.	44	3	—	—	—	—	—	—	—	—	—
Consumers Oil	45	2	—	—	—	—	—	—	—	38	7
Crown Central Petroleum Corp.	722	8	—	—	—	—	—	—	—	—	2
Crystal Flash Petroleum Corp.	25	1	—	—	—	—	—	—	—	—	—
C.S.C. Oil Co.	13	2	—	—	—	—	—	—	—	—	—
Dairy Mart Convenience Stores, Inc.	430	15	—	4	—	14	3	29	12	—	2
K.E. David, Ltd.	6	2	—	—	—	—	—	—	—	1	5
DeBlois Oil Co.	41	2	—	—	—	12	29	—	—	—	—
Delta Group USA, Inc.	42	2	—	—	—	—	—	—	—	—	—
Drakes Refinery Stations	6	1	—	—	—	—	—	—	—	—	—
East Coast Oil Corp.	41	1	—	—	—	—	—	—	—	—	—
Emro Marketing Co.	1,665	16	—	—	—	—	—	—	—	—	—
Engelfield Oil Co.	246	2	—	—	—	—	—	—	—	—	—
Exxon Company U.S.A.	12,091	38	190	75	—	132	12	81	242	481	685
FKG Oil Co.	50	6	—	—	—	—	—	—	—	—	—
Farm & Home Oil Co.	42	2	—	—	—	—	—	—	—	3	39
Fleetman, Inc. dba Fuelman	310	5	—	—	—	—	—	—	—	—	—
Flying J Inc.	115	23	—	—	—	—	—	—	—	—	—
Fortmeyer Co.	1	1	—	—	—	—	—	—	—	—	—
H.N. Funkhouser & Co.	23	1	—	—	—	—	—	—	—	—	—
Getty Petroleum Corp.	2,240	13	99	82	59	207	31	113	721	353	382
Golub Corp.	12	2	—	—	—	1	—	—	11	—	—
Gresham Petroleum Co.	30	1	—	—	—	—	—	—	—	—	—
Gulf Oil	4,091	14	198	164	124	598	95	328	742	685	812
Highway Oil, Inc.	208	22	—	2	2	—	—	—	23	—	21
Angus I. Hines, Inc.	55	3	—	—	—	—	—	—	—	—	—
Holland Oil Co.											
Hough Petroleum	62	2	—	—	—	—	—	—	—	59	3
Huck's Convenience Stores	100	5	—	—	—	—	—	—	—	—	—
Hull Oil Co.	31	2	—	—	—	—	—	—	—	—	—
Hunt Refining Co.	130	2	—	—	—	—	—	—	—	—	—
Jacobus Petroleum Products, Inc.	12	1	—	—	—	—	—	—	—	—	—
J & L Oil, Inc.	52	3	—	—	—	—	—	—	—	—	—
Johnson Products, Inc.	69	6	34	20	5	2	1	—	7	—	—

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*Excludes Airport & Marine Outlets/New Car Dealerships, and Military Exchanges.

in the United States

South Atlantic									East North Central					East South Central			
Del.	Md.	D.C.	Va.	W.Va.	N.C.	S.C.	Ga.	Fla.	Ohio	Ind.	Ill.	Mich.	Wis.	Ky.	Tenn.	Ala.	Miss.
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	12	—	54	125	331	318	—	—	21	—	—	5	170	101	23
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
16	255	46	366	5	681	286	643	673	273	315	921	502	407	—	636	278	204
—	—	—	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	34	284	—	—	30	—	332	39	23	9	76	737	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	31	—	—
7	20	—	207	67	715	431	839	416	1,018	1	—	208	—	503	643	510	425
—	1	—	26	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	16	—	—	9	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	18
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	31	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	72	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	1	2	—	—	—	—	—	—	—	14	—
—	—	—	—	—	—	10	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	5	175	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	142	14	483	212	220	94	760	677	29	11	—	—	—	667	96	696	339
—	—	—	—	—	76	33	171	47	2	1	—	1	—	—	31	23	20
15	158	1	526	66	274	70	307	632	99	67	172	115	266	73	241	370	115
—	—	—	—	3	—	—	—	—	197	115	239	181	93	21	—	—	—
—	—	—	41	3	7	2	10	78	—	—	23	—	—	10	22	—	—
—	—	—	—	—	—	—	—	—	150	—	—	—	—	—	—	—	—
—	—	—	—	—	5	22	33	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	1	2	—	—	—	—	—	—	—	—	—	—
—	—	—	26	5	34	24	48	42	23	5	42	4	54	16	64	84	75
—	—	—	—	—	—	—	—	—	—	—	—	—	—	4	30	10	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	99	—	45	—	201	186	98	22	—	—	—	—	—	—	—	69	—
—	—	—	—	—	—	—	—	—	—	25	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	5	—	—	—	—	8	—	—	—
—	—	—	—	—	17	—	—	19	103	21	26	1	—	160	17	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	3	—	39	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	6	—	—	—	—	—
—	—	—	41	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	5	38	74	88	86	439	311	150	282	59	61	11	13	21
—	—	—	—	28	—	—	—	—	218	—	—	—	—	—	—	—	—
47	341	40	715	384	1,079	566	420	483	11	—	—	—	—	—	605	312	181
—	—	—	—	—	—	—	—	—	10	4	27	—	5	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10	28
—	—	—	—	—	1	1	2	—	1	1	—	—	—	—	1	—	—
—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—
—	—	—	23	—	—	—	—	—	—	—	—	—	—	—	—	—	—
30	63	—	82	18	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	30
77	12	—	—	3	—	—	—	—	252	—	—	—	—	1	—	—	—
—	5	—	—	4	—	—	2	27	33	10	—	3	—	8	7	2	2
—	—	—	53	1	1	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	10	85	—	—	2	2	—	—
—	—	—	—	—	—	—	—	30	—	—	—	—	—	—	—	1	2
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90	40
—	—	—	—	—	—	—	—	—	—	—	—	—	12	—	—	—	—
—	—	—	—	—	—	—	5	—	—	—	35	—	12	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Branded Retail Outlets (cont'd)

Company	TOTAL BRANDED RETAIL OUTLETS	NUMBER OF STATES WHERE GASOLINE BRAND IS MARKETED	New England						Middle Atlantic		
			Maine	N.H.	Vt.	Mass.	R.I.	Conn.	N.Y.	N.J.	Pa.
Kelso Oil Co. Inc., dba Pride Oil	12	1	—	—	—	—	—	—	—	—	—
Kerr-McGee Refining Corp.	1,766	20	—	—	—	—	—	—	—	—	—
Kimber Petroleum Corp.	75	1	—	—	—	—	—	—	—	75	—
Kwik Shop Inc.	210	5	—	—	—	—	—	—	—	—	—
Carlos R. Leffler	200	1	—	—	—	—	—	—	—	—	200
H.C. Lewis Oil Co.	30	1	—	—	—	—	—	—	—	—	—
The Lyden Company	150	1	—	—	—	—	—	—	—	—	—
Marathon Petroleum Co.	2,516	8	—	—	—	—	—	—	—	—	13
Martin Oil Marketing, Ltd.	43	2	—	—	—	—	—	—	—	—	—
Mauger & Co.	40	1	—	—	—	—	—	—	—	—	40
McDowell Oil Service Inc.	30	1	—	—	—	—	—	—	—	—	30
McLeiser Oil, Inc.	50	1	—	—	—	—	—	—	—	—	—
M.G.S. Oil, Petroleum & General Trading Corp.	17	1	—	—	—	—	—	—	—	—	—
Mid-Continent Systems Inc.	35	3	—	—	—	—	—	—	—	—	—
Mid-States Petroleum	121	3	—	—	—	—	—	—	—	—	—
Miller Enterprises, Inc.	118	1	—	—	—	—	—	—	—	—	—
Miller Oil Co.	80	2	—	—	—	—	—	—	—	—	—
Mobil Oil Corp.	9,466	33	237	121	146	557	96	311	1,344	485	614
Munford, Inc.	95	5	—	—	—	—	—	—	—	—	—
Munro Petroleum & Terminal Corp.	41	1	—	—	—	—	—	—	—	—	—
Murphy Oil USA, Inc.	629	12	—	—	—	—	—	—	—	—	—
National Oil & Gas Inc.	87	2	—	—	—	—	—	—	—	—	—
Pal Oil Company Inc.	59	1	—	—	—	—	—	—	59	—	—
Parker Oil Co., Inc.	129	3	—	—	—	—	—	—	—	—	—
Patterson Oil Co., Inc.	36	1	—	—	—	—	—	36	—	—	—
PDQ Food Stores, Inc.	69	4	—	—	—	—	—	—	—	—	—
Petroleum Marketers, Inc.	137	2	—	—	—	—	—	—	—	—	—
Petroleum Products Corp.	57	2	—	—	—	—	—	—	—	—	47
Petroleum Sales & Services	40	1	—	—	—	—	—	—	40	—	—
Phillips 66 Co.	8,656	35	—	—	—	—	—	—	—	—	—
Piasa Motor Fuels Inc.	21	2	—	—	—	—	—	—	—	—	—
Pride Oil Co. (Miss.)	17	2	—	—	—	—	—	—	—	—	—
Private Brand Services, Inc.	1	1	—	—	—	—	—	—	—	—	—
Quality Oil Co. Inc., Ltd. Partnership	125	1	—	—	—	—	—	—	—	—	—
Racetrac Petroleum, Inc.	309	13	—	—	—	—	—	—	—	—	—
Red Hed Oil Co., Inc.	38	1	—	—	—	—	—	—	—	—	—
Reinauer Petroleum Co.	7	1	—	—	—	—	—	—	—	7	—
Remote Services, Inc.	249	8	—	4	—	—	—	—	—	—	—
Reynolds Industries, Inc.	5	2	3	—	—	2	—	—	—	—	—
River Oil Co.	40	2	—	—	—	—	—	—	—	—	—
Roach Oil Co.	10	2	—	—	—	—	—	—	—	—	—
Royster Oil Co., Inc.	32	1	—	—	—	—	—	—	—	—	—
Santee Oil Co.	12	1	—	—	—	—	—	—	—	—	—
SCASO	40	1	—	—	—	—	—	40	—	—	—
Sears Oil Co., Inc.	11	1	—	—	—	—	—	—	11	—	—
Shelby Petroleum Corp.	20	2	—	—	—	—	—	—	—	—	—
Shell Oil Co.	9,763	40	—	12	—	228	55	135	264	278	99
Shotmeyer Bros. Petroleum Corp.	32	1	—	—	—	—	—	—	—	32	—
SICO	131	3	—	—	—	—	—	—	—	40	89
Simon Oil Co., Inc.	100	1	—	—	—	—	—	—	100	—	—
R.L. Smeltz Oil Co. Inc.	20	1	—	—	—	—	—	—	—	—	20
Smith-Shafer Oil Co.	5	1	—	—	—	—	—	—	—	—	—
SOS Oil Corp.	50	1	—	—	—	—	—	—	50	—	—
Southern Oil Co., Inc.	8	1	—	—	—	—	—	—	—	—	—
Southern States	103	6									
The Spencer Co., Inc.	51	1	—	—	—	—	—	—	—	—	—
Star Oil Co.	22	1	—	—	—	—	—	—	—	—	—
Stevens Oil Co.	47	1	—	—	—	—	—	—	—	—	—
Sugarcreek Corp.	300	2	—	—	—	—	—	—	290	—	10

South Atlantic									East North Central					East South Central			
Del.	Md.	D.C.	Va.	W.Va.	N.C.	S.C.	Ga.	Fla.	Ohio	Ind.	Ill.	Mich.	Wis.	Ky.	Tenn.	Ala.	Miss.
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12	—	—
—	—	—	—	—	—	—	—	7	—	24	118	—	76	3	23	38	18
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	15	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	30	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	150	—	—	—	—	—	—	—	—
—	—	—	—	21	—	—	—	—	807	509	343	611	34	178	—	—	—
—	—	—	—	—	—	—	—	—	—	18	25	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	50	—	—	—	—	—
—	—	—	—	—	—	—	—	—	17	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	2	32	—
—	—	—	—	—	—	—	—	—	18	20	—	83	—	—	—	—	—
—	—	—	—	—	—	—	—	118	—	—	—	—	—	—	—	—	—
—	—	—	55	—	25	—	—	—	—	—	—	—	—	—	—	—	—
49	106	1	177	38	192	0	7	514	202	141	407	530	480	45	138	13	0
—	—	—	—	—	—	8	44	40	—	—	—	—	—	—	—	2	1
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	41
—	—	—	17	—	54	19	54	94	—	—	—	—	89	—	70	87	29
—	—	—	—	—	—	—	—	—	3	84	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	1	—	125	—	3	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	20	—	—	—	—
—	—	—	127	10	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	10	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	7	—	67	1	626	274	378	506	—	303	508	69	237	33	306	348	150
—	—	—	—	—	—	—	—	—	—	—	19	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	16
—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—
—	—	—	—	—	125	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	19	—	3	10	51	35	—	—	—	—	—	4	41	98	7
—	—	—	—	—	—	—	—	—	—	—	—	—	—	38	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	10	—	—	17	—	19	24	—	—	158	16	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	37	—	3
—	3	—	—	7	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	32	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	12	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	10	10	—	—
38	218	9	294	12	359	169	332	641	425	329	633	590	144	283	256	294	255
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	5	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	8	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	51	—
—	—	—	—	—	—	—	—	—	—	—	—	22	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	47	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Branded Retail Outlets (cont'd)

Company	TOTAL BRANDED RETAIL OUTLETS	NUMBER OF STATES WHERE GASOLINE BRAND IS MARKETED	New England						Middle Atlantic		
			Maine	N.H.	Vt.	Mass.	R.I.	Conn.	N.Y.	N.J.	Pa.
Sumrall Oil Services, Inc.	8	1	—	—	—	—	—	—	—	—	—
Sun Refining & Marketing Co.	6,445	28	53	97	50	386	109	237	1,240	436	1,421
Sunshine Jr. Stores, Inc.	303	5	—	—	—	—	—	—	—	—	—
Taylor Oil Co.	55	2	—	—	—	—	—	—	—	—	—
Texaco Inc.	16,890	49	141	94	77	373	69	255	342	356	774
Thornhill Oil Co., Inc.	28	1	—	—	—	—	—	—	—	—	—
TOC Retail Inc., dba Majik Markets	341	11	—	—	—	—	—	—	—	—	—
Thornton Oil Corp.	98	6	—	—	—	—	—	4	—	—	—
Total Petroleum, Inc.	2,776	22	—	—	—	—	—	—	—	—	—
Trenton Oil Co., Inc.	31	1	—	—	—	—	—	—	—	31	—
Triton Incorporated	7	1	—	—	—	—	—	—	—	—	—
Ultra Power Corp.	12	1	—	—	—	—	—	—	12	—	—
United Refining Co.	324	3	—	—	—	—	—	—	173	—	134
Unocal Corp.**	7,316	43	—	—	—	—	—	2	—	2	—
Vista Marketing Group Ltd.	16	4	—	—	—	—	—	—	—	—	—
Waco Oil Co., Inc.	16	2	—	—	—	—	—	—	—	—	—
Wake Up Oil Co., Inc.	38	1	—	—	—	—	—	—	—	—	—
Warren Equities, Inc.	268	8	11	8	—	63	54	59	42	21	10
WAVAHO Oil Co.	96	5	—	—	—	—	—	—	—	—	—
Wesson, Inc.	40	1	—	—	—	—	—	40	—	—	—
A.T. Williams Oil Co.	91	2	—	—	—	—	—	—	—	—	—
J.H. Williams Oil Co., Inc.	80	1	—	—	—	—	—	—	—	—	—
The Wills Group, Inc.	130	3	—	—	—	—	—	—	—	—	—
Wooten Oil Co.	33	2	—	—	—	—	—	—	—	—	—
Wright Industries, Inc.	18	1	—	—	—	—	—	—	—	—	—
York Oil Co., Inc.	10	1	—	—	—	—	—	—	—	—	—

Company	TOTAL BRANDED RETAIL OUTLETS	NUMBER OF STATES WHERE GASOLINE BRAND IS MARKETED	West North Central						
			Minn.	Iowa	Mo.	N.D.	S.D.	Neb.	Kan.
Ada Resources & Energy, Inc.	77	1	—	—	—	—	—	—	—
American Petrofina, Inc.	3,177	23	70	27	173	—	22	25	107
Amoco Corp.	9,909	31	476	380	405	171	173	139	206
ARCO	1,699	5	—	—	—	—	—	—	—
Arkansas Valley Petroleum	75	2	—	—	11	—	—	—	—
Armour Oil Co.	62	6	—	—	—	—	—	—	—
Ashland Oil Co., Inc.	1,800	18	160	8	3	1	5	—	—
BP America, Inc. (Ohio)	7,464	26	—	—	—	—	—	—	—
Bostick Brothers, Inc.	19	2	—	—	—	—	—	—	—
Brennan Petroleum Co.	1	1	—	—	—	—	—	—	—
Cenex	972	14	215	50	—	150	107	44	6
Chapman, Inc.	35	2	—	—	—	—	—	—	—
Chevron Corp.*	10,682	33	—	—	2	—	—	—	—
Circle K Corp.	898	23	—	—	—	—	—	—	—
Citgo Petroleum Corp.	8,463	42	19	18	166	—	—	2	39
Clark Oil & Refining Corp.	944	12	21	7	51	—	—	—	11
The Coastal Corp.	720	23	8	99	51	—	6	42	156
Como Oil Co.	30	1	30	—	—	—	—	—	—
Conoco Inc.	5,484	37	180	221	399	87	80	228	242
Cook & Cooley, Inc.	76	1	—	—	—	—	—	—	—
Curtis Oil Co.	16	3	—	—	—	—	—	—	—
Curtis Parker Oil Co., Inc.	17	1	—	—	—	—	—	—	—
Dairy Mart Convenience Stores, Inc.	430	15	—	1	—	—	—	—	—
Diamond Shamrock Refining & Marketing Co.	1,947	8	—	—	4	—	—	—	21
Emro Marketing Co.	1,665	16	—	—	—	—	—	—	—
Exxon Co., U.S.A.	12,091	38	—	—	1	—	11	—	—
FKG Oil Co.	50	6	2	—	2	—	—	—	—
Fleetman Inc.	310	5	—	—	—	—	—	—	—

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*Excludes Airport and Marine Outlets, New Car Dealerships, and Military Exchanges.

**Does not include Unocal's Unoven joint venture.

South Atlantic									East North Central					East South Central			
Del.	Md.	D.C.	Va.	W.Va.	N.C.	S.C.	Ga.	Fla.	Ohio	Ind.	Ill.	Mich.	Wis.	Ky.	Tenn.	Ala.	Miss.
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8
23	103	7	21	83	81	5	—	—	518	189	284	393	4	88	—	—	—
—	—	—	—	—	—	—	18	162	—	—	—	—	—	—	—	69	35
—	—	—	10	—	45	—	—	—	—	—	—	—	—	—	—	—	—
66	253	9	579	47	915	454	710	786	2	0	33	0	4	52	536	668	431
—	—	—	—	—	—	—	—	—	—	28	—	—	—	—	—	—	—
—	—	—	2	1	22	30	42	129	—	—	—	—	—	10	35	27	8
—	—	—	—	—	—	—	—	—	11	13	16	—	—	45	—	—	—
—	—	—	—	—	—	—	—	—	13	1	31	507	70	1	19	—	2
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	7	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	17	—	—	—	—	—	—	—	—
—	8	—	338	—	742	256	609	701	—	—	—	—	—	—	386	677	344
—	—	—	—	—	—	—	—	—	—	—	4	—	7	—	—	—	—
—	—	—	—	—	—	—	—	—	4	—	—	—	—	12	—	—	—
—	—	—	—	—	—	—	—	—	—	38	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	8	—	3	67	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	41	—	50	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	80	—	—	—	—	—	—	—	—	—
5	123	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	32	1	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	18	—	—	—	—	—	—
—	—	—	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—

West South Central				Mountain								Pacific				
Ark.	La.	Okla.	Texas	Mont.	Idaho	Wyo.	Colo.	N.M.	Ariz.	Utah	Nev.	Wash.	Ore.	Calif.	Alaska	Hawaii
—	—	—	77	—	—	—	—	—	—	—	—	—	—	—	—	—
97	103	126	1,123	—	—	—	7	136	1	—	—	—	—	—	—	—
—	—	—	—	—	18	66	245	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	73	—	79	281	117	1,149	—	—
—	—	64	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	4	—	—	—	—	—	38	9	7	—	1
—	—	—	—	22	—	1	—	—	—	—	—	3	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	204	238	386	—	—
1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—
—	—	—	—	69	43	8	—	—	—	6	—	59	35	—	—	—
—	—	1	34	—	—	—	—	—	—	—	—	—	—	—	—	—
276	476	174	1,919	66	129	30	4	200	185	122	94	386	231	1,891	106	140
3	164	89	128	—	—	—	—	—	47	17	20	7	—	1	—	10
245	216	339	1,103	—	—	—	192	22	1	123	89	—	—	1	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5	—	37	42	—	—	3	26	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
226	523	475	898	297	48	103	466	132	6	144	5	102	—	63	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	78	—	—
1	—	14	1	—	—	—	—	—	—	—	—	—	—	—	—	—
—	17	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
67	31	60	1,509	—	—	—	155	91	—	—	—	—	—	—	—	—
4	23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
346	513	2	2,329	191	37	20	47	106	261	20	31	227	89	768	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
23	237	—	12	—	—	—	—	—	—	—	—	—	—	—	—	—

Branded Retail Outlets (cont'd.)

Company	TOTAL BRANDED RETAIL OUTLETS	NUMBER OF STATES WHERE GASOLINE BRAND IS MARKETED	West North Central						
			M!nn.	Iowa	Mo.	N.D.	S.D.	Neb.	Kan.
Flying J Inc.	115	23	—	1	1	8	—	4	—
Friends Convenience Store	44	1	—	—	—	—	—	—	—
Gasco Gasoline, Inc.	42	1	—	—	—	—	—	—	—
General Oil Co.	30	1	—	—	—	—	—	—	—
Giant Industries, Inc.	27	3	—	—	—	—	—	—	—
Harris Enterprises Inc.	28	2	—	—	—	—	—	—	—
Hawaiian Independent Refinery Inc.	25	1	—	—	—	—	—	—	—
Highway Oil, Inc.	208	22	—	1	13	—	4	—	20
Barney Holland Oil Co.	90	1	—	—	—	—	—	—	—
Horkey Oil Co., Inc.	41	1	—	—	—	—	—	—	—
Horn Distributing Co., Inc.	28	1	—	—	—	—	—	—	—
Hucks Convenience Stores	100	5	—	—	1	—	—	—	—
Hudson Oil Co.	11	2	—	—	—	—	—	—	—
JS&J Service Inc.	3	2	—	—	—	—	—	—	—
Kent Distributors, Inc.	18	1	—	—	—	—	—	—	—
Kerr-McGee Refining Corp.	1,786	20	27	126	153	5	31	100	141
Krause Gentle Corp.	137	6	—	103	4	7	—	—	—
Kwik Shop, Inc.	210	5	—	66	—	—	—	48	63
Merritt Truax, Inc.	41	1	—	—	—	—	—	—	—
Mid-Missouri Oil Co.	15	1	—	—	15	—	—	—	—
Mini Mart Inc.	29	4	—	—	—	—	—	4	—
Missouri Terminal Oil Co.	30	1	—	—	30	—	—	—	—
Mobil Oil Corp.	9,486	33	303	0	95	19	0	0	0
Murphy Oil USA, Inc.	629	12	60	—	—	—	—	—	—
Muskat Corp.	123	6	—	—	—	—	—	—	18
Neal, Inc.	26	1	—	—	—	—	—	—	—
Nella Oil Co.	27	2	—	—	—	—	—	—	—
Newall Oil Co.	15	1	—	—	—	—	—	—	—
Olympian Oil Co.	40	1	—	—	—	—	—	—	—
Pacific Northern Oil Co.	60	1	—	—	—	—	—	—	—
PDQ Food Stores, Inc.	69	4	15	—	—	—	—	—	—
Peavey Oil Co.	9	1	—	—	—	—	—	—	—
Phillips 66 Co.	8,656	35	404	358	634	[illegible]	89	253	329
Piasa Motor Fuels Inc.	21	2	—	—	2	—	—	—	—
Promana, Inc.	25	1	—	—	—	—	—	—	—
Pride of Texas Dist. Co.	41	1	—	—	—	—	—	—	—
Purity Oil Co.	16	1	—	—	—	—	—	—	—
Racetrac Petroleum, Inc.	309	13	—	—	1	—	—	—	—
Remote Services, Inc.	249	8	—	1	—	—	—	—	—
Republic Oil Corp.	5	1	—	—	—	—	—	—	—
Robinson Oil Co., Inc.	25	1	—	—	—	—	—	—	—
Sahara Oil Co., Inc.	21	1	—	—	—	—	—	—	—
Shay Oil Co., Inc.	20	1	—	—	—	—	—	—	—
Shell Oil Co.	9,763	40	—	14	188	—	—	—	—
Southern Counties Oil Co.	90	1	—	—	—	—	—	—	—
Sun Refining & Marketing Co.	6,445	28	—	189	145	—	—	3	2
Sunshine Jr. Stores, Inc.	303	5	—	—	—	—	—	—	—
Texaco Inc.	16,890	49	187	197	377	1	78	186	211
Thornton Oil Corp.	96	6	—	—	—	—	—	—	—
Thrifty Oil Corp.	155	1	—	—	—	—	—	—	—
T.J. Terminals Corp.	2	1	—	—	—	—	—	—	2
Time Saver Stores	115	1	—	—	—	—	—	—	—
TOC Retail Inc. dba Majik Markets	341	11	—	—	—	—	—	—	—
Tooley Oil Co.	7	1	—	—	—	—	—	—	—
Total Petroleum, Inc.	2,776	22	117	120	447	3	30	158	462
Ultramar, Inc.	350	1	—	—	—	—	—	—	—
Unocal Corp.*	7,316	43	—	30	—	—	—	—	1
V-1 Oil Co.	26	5	—	—	—	—	—	—	—
Vista Marketing Group Ltd.	16	4	—	1	4	—	—	—	—
Warelubco, Inc.	96	5	—	16	2	—	—	—	—
Webster Oil Co.	23	1	—	—	23	—	—	—	—

*Does not include Unocal's Unoven joint venture.

West South Central				Mountain								Pacific				
Ark.	La.	Okla.	Texas	Mont.	Idaho	Wyo.	Colo.	N.M.	Ariz.	Utah	Nev.	Wash.	Ore.	Calif.	Alaska	Hawaii
1	—	—	2	4	13	5	3	1	3	19	3	20	5	13	—	—
—	—	—	44	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	42	—	—
30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	1	14	12	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	1	27	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	25
—	—	—	12	—	—	4	3	—	—	—	—	—	—	—	—	—
—	—	—	90	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	41	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	28	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	10	1	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	1	—	—	—	—	2	—	—
—	—	—	18	—	—	—	—	—	—	—	—	—	—	—	—	—
263	5	394	223	—	—	—	—	11	—	—	—	—	—	—	—	—
—	—	—	—	1	—	—	21	1	—	—	—	—	—	—	—	—
—	—	18	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	41	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	20	—	3	2	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7	284	0	859	0	0	0	0	0	223	0	0	0	0	745	0	0
6	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2	—	83	12	—	—	—	7	3	—	—	—	—	—	—	—	—
—	—	—	26	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	1	—	—	26	—	—
—	—	—	15	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	40	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	60	—	—	—
—	—	—	—	—	—	—	29	—	—	—	5	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	9	—	—	—
235	259	488	1,088	1	75	50	241	146	4	167	3	—	5	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	25
—	—	—	41	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	16	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3	13	—	24	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	5	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	25	—	—
—	—	—	—	—	—	—	—	—	21	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	20	—	—	—	—	—	—	—
72	473	—	600	—	45	—	6	76	43	17	38	221	180	1,378	—	60
—	—	—	—	—	—	—	—	—	—	—	—	—	—	90	—	—
19	—	299	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
368	708	582	2,896	2	79	80	318	192	256	206	112	513	346	906	17	46
—	—	—	7	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	155	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	115	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	36	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	7	—	—
89	2	512	64	—	—	5	88	15	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	350	—	—
87	246	3	43	1	12	—	1	2	184	35	66	268	184	1,901	47	142
—	—	—	—	4	10	8	1	—	—	3	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Number of Employees

(As of Jan. 1, 1989)

	Mining	Refining		Transportation		Wholesale	Retail	
	Oil and Gas Extraction	Petroleum Refining	Oils and Greases	Pipelines, Except Gas	Gas Distribution	Petroleum Products	Gasoline Stations	Total Industry
Alabama	1,489	402	115	85	3,197	5,483	8,224	18,995
Alaska	8,620	94	0	930	225	566	1,036	11,471
Arizona	126	14	9	120	1,841	1,391	8,881	12,382
Arkansas	2,598	N/A	N/A	N/A	2,185	2,805	5,549	13,137
California	33,208	24,820	876	961	11,120	14,851	62,828	148,466
Colorado	14,020	581	52	73	1,981	2,246	8,552	27,505
Connecticut	131	N/A	65	N/A	1,337	1,748	9,162	12,443
Delaware	11	797	10	4	311	267	1,504	2,904
D.C.	59	54	0	0	632	160	865	1,770
Florida	692	37	247	64	2,187	6,809	30,006	40,042
Georgia	69	N/A	148	464	4,355	6,196	17,578	28,810
Hawaii	N/A	433	0	0	350	622	3,547	4,962
Idaho	36	0	0	16	327	1,414	3,171	4,964
Illinois	3,785	8,275	1,291	921	7,819	10,059	27,022	59,172
Indiana	535	2,292	325	396	2,884	3,314	18,173	27,919
Iowa	15	1	55	150	1,094	3,220	13,193	17,728
Kansas	9,027	2,059	370	1,863	2,783	2,444	9,350	27,896
Kentucky	2,149	3,735	135	139	3,525	3,072	10,706	23,461
Louisiana	54,000	10,300	600	1,100	6,000	5,000	7,200	84,200
Maine	N/A	0	0	N/A	N/A	1,368	3,559	4,927
Maryland	32	27	353	0	1,132	2,775	13,683	18,002
Massachusetts	54	N/A	409	N/A	5,116	2,643	15,908	24,130
Michigan	4,534	1,754	793	281	6,572	6,531	24,110	44,575
Minnesota	164	N/A	167	207	2,192	2,842	17,249	22,821
Mississippi	5,655	1,606	133	228	2,151	3,053	6,186	19,012
Missouri	78	N/A	374	223	4,461	6,396	19,886	31,418
Montana	1,938	766	0	76	279	1,289	3,218	7,546
Nebraska	595	N/A	N/A	98	1,719	2,282	6,900	11,594
Nevada	243	23	0	23	778	464	4,104	5,635
New Hampshire	0	0	1	3	268	462	2,916	3,650
New Jersey	88	6,350	811	153	2,352	3,941	18,554	32,249
New Mexico	9,200	642	34	354	2,903	2,323	4,364	19,820
New York	1,729	5,425	410	126	6,631	8,652	27,466	50,439
North Carolina	20	0	246	114	2,753	6,053	11,829	21,015
North Dakota	2,747	220	133	154	1,026	2,185	2,346	8,811
Ohio	6,498	5,631	836	693	7,424	6,837	31,874	59,793
Oklahoma	42,251	6,533	415	1,341	5,278	4,688	7,647	68,153
Oregon	64	88	N/A	20	N/A	2,638	9,148	11,958
Pennsylvania	3,800	8,200	800	700	8,300	10,100	27,700	59,600
Rhode Island	6	N/A	N/A	N/A	934	453	2,436	3,829
South Carolina	26	N/A	N/A	N/A	563	3,953	7,950	12,492
South Dakota	111	0	0	66	128	1,574	2,709	4,588
Tennessee	332	373	73	41	1,808	5,420	11,616	19,663
Texas	174,959	26,245	1,159	4,888	27,428	22,765	33,702	291,146
Utah	2,023	788	24	77	2,279	1,125	5,562	11,878
Vermont	N/A	N/A	N/A	N/A	106	434	2,223	2,763
Virginia	301	257	65	78	3,036	8,417	15,598	27,752
Washington	204	1,617	N/A	85	N/A	2,702	10,686	15,294
West Virginia	4,336	403	181	92	4,836	1,431	5,052	16,331
Wisconsin	N/A	N/A	55	180	2,745	3,719	17,044	23,743
Wyoming	9,191	918	11	238	1,040	995	3,027	15,420
Total	401,749	121,770	11,783	17,825	160,391	201,957	622,799	1,538,274

Note: Data differ from the Bureau of Labor Statistics national averages to confidentiality rules.

Source: Various government agencies.

How Distillates Were Used in 1988

(Add 000 gal.)

Use	1988	1987	% Change	% Share of Total Distillates Use in 1988	% Share of Total Distillates Use in 1987
Residential . . .	7,662,046	7,426,412	3.2%	16.0%	16.3%
Commercial . . .	4,135,079	4,279,375	(3.4)	8.6	9.6
Industrial	2,617,639	2,917,624	(10.3)	5.5	6.0
Oil Company . .	872,133	881,729	(1.1)	1.8	1.9
Farm	3,420,671	3,241,968	5.5	7.1	7.6
Elec. Utils.	800,085	646,073	23.8	1.7	1.4
Railroad	3,259,250	3,147,661	3.5	6.8	6.9
Vessel Bunkering . .	2,310,367	2,223,258	3.9	4.8	4.6
On-Highway Diesel	20,038,691	18,172,934	10.3	41.8	40.1
Military	980,877	884,392	11.0	2.0	1.7
Off-Highway Diesel	1,821,819	1,732,106	5.2	3.8	3.8
All other	66,763	75,815	(12.0)	0.1	0.2
U.S. Total . . .	47,985,420	45,629,346	5.2	—	—

Source: Energy Information Administration, Petroleum Marketing Monthly, June 1989.

How Residual Was Used in 1988

(Add 000 gal.)

Use	1988	1987	% Change	% Share of Total Residual Use in 1988	% Share of Total Residual Use in 1987
Commercial . . .	1,788,728	1,764,531	1.4%	8.4%	7.6%
Industrial	3,855,070	3,810,345	1.2	18.2	20.7
Oil Company . .	433,294	502,615	(14.0)	2.0	2.5
Elec. Utils.	9,540,878	7,631,898	(25.0)	45.0	41.6
Railroad	33	294	(88.8)	—	—
Vessel Bunkering . .	5,248,981	5,295,272	(0.9)	24.8	24.3
Military	137,287	191,045	(28.3)	0.6	0.8
All other	175,279	223,168	(21.5)	0.8	1.4
U.S. Total . . .	21,179,550	19,383,168	9.3	—	—

Source: Energy Information Administration, Petroleum Marketing Monthly, June 1989.

How Kerosine Was Used in 1988

(Add 000 gal.)

Use	1988	1987	% Change	% Share of Total Kerosine Use in 1988	% Share of Total Kerosine Use in 1987
Residential . . .	770,042	671,350	14.8%	53.1%	44.6%
Commercial . . .	306,584	267,437	15.0	21.2	20.4
Industrial	188,117	160,057	17.5	13.0	11.5
Farm	45,990	34,761	32.3	3.2	2.3
All other	167,583	315,900	(46.8)	11.6	22.2
U.S. Total . . .	1,449,504	1,478,316	(1.9)	—	—

Source: Energy Information Administration, Petroleum Marketing Monthly, June 1989.

How New Homes Are Heated

Region	New Homes Completed (Add 000)	Share of New Homes by Fuels and Percentages			
		Gas	Electric	Oil	Other
Northeast	188	45%	23%	30%	1%
Midwest	191	84	12	(*)	3
South	457	36	62	1	2
West	248	71	22	(*)	7
Total 1988	1,085	54%	37%	6%	3%
Total 1987	1,123	52%	40%	5%	3%

(*) Negligible

Source: Charactenstics of New Housing Dept. of Commerce, Current Construction Reports, Characteristics, of New Housing.

Gas: Who Uses It for Heat

Region	% of Gas-Heated Homes to Total Gas-Using Homes	Consumers Added in 1988 (Add 000)		
		New Homes	Existing Homes	Total Added
New England	70.5%	23.7	19.7	43.4
Mid-Atlantic	66.5	82.7	47.0	129.7
East North Central	94.8	127.2	29.9	157.1
West North Central	97.5	49.1	7.4	56.5
South Atlantic	85.0	85.7	43.7	129.4
East South Central	94.0	14.0	4.8	18.8
West South Central	89.1	30.7	2.3	33.0
Mountain	95.5	40.6	6.6	47.2
Pacific	95.5	248.3	23.9	272.2
Total	88.0%	702.0	185.2	887.2
% Change '88 vs. '87	—	3.2%	19.9%	1.0%

Source: American Gas Assn., House Heating Survey 1988, Table #3.

Gas Heat Equipment Shipments

Class and Type of Equipment	1989	1988	% Change
Central Heating:			
Furnaces	2,162,185	2,092,165	3.3%
Boilers	191,803	211,320	(9.2)
Space Heating:			
Wall Furnaces Vented	173,410	173,200	0.1
RV Systems	NA	235,518	NA
Water Heaters:			
Gas	4,130,469	3,956,469	4.4
Electric	3,369,108	3,333,490	1.1
Oil (a)	36,000	34,000	5.9

(a) Estimated by fuel oil industry sources for comparison.

Source: Gas Appliance Manufacturers Assn.

Distillate Deliveries in 1987...

(Add 000 gal.)

Destination	Residential		Commercial		Industrial	
	1988	1987	1988	1987	1988	1987
PAD District 1						
New England States						
Connecticut	551,570	487,757	126,954	131,751	41,539	53,835
Maine	250,661	229,415	75,085	62,311	25,728	20,677
Massachusetts	778,311	780,180	267,161	255,013	81,932	144,029
New Hampshire	155,027	165,599	48,426	70,359	12,381	11,542
Rhode Island	151,241	134,202	33,914	37,406	9,660	21,208
Vermont	81,504	78,813	29,000	27,382	8,010	7,615
Central Atlantic States						
Delaware	58,492	56,317	16,393	15,196	8,396	8,024
District of Columbia	12,392	17,187	22,978	27,269	41	319
Maryland	248,603	231,865	78,171	81,249	28,327	25,500
New Jersey	733,996	732,455	331,693	327,048	84,121	82,160
New York	1,529,357	1,521,225	618,101	620,814	55,117	71,588
Pennsylvania	830,514	800,822	234,527	237,251	193,592	212,659
Lower Atlantic States						
Florida	21,929	30,240	139,057	162,109	34,013	57,029
Georgia	10,821	14,393	50,504	42,160	36,948	42,447
North Carolina	240,830	238,714	129,619	123,234	81,008	83,480
South Carolina	47,027	58,813	44,277	36,463	21,804	19,171
Virginia	292,714	278,832	109,142	109,206	77,482	82,046
West Virginia	24,079	26,618	15,011	18,922	82,313	72,406
Total	**6,019,068**	**5,883,446**	**2,370,013**	**2,385,143**	**882,413**	**1,015,737**
PAD District 2						
Illinois	**89,088**	**80,088**	**82,151**	**69,207**	**72,447**	**156,101**
Indiana	**117,319**	**115,985**	**56,174**	**58,620**	**71,576**	**129,888**
Iowa	**46,844**	**51,164**	**28,766**	**31,893**	**19,781**	**16,987**
Kansas	**1,254**	**897**	**16,178**	**11,391**	**14,194**	**18,973**
Kentucky	**37,255**	**31,939**	**40,976**	**22,393**	**152,600**	**154,523**
Michigan	**244,362**	**219,002**	**102,033**	**73,364**	**78,573**	**54,714**
Minnesota	**183,729**	**163,249**	**46,264**	**42,344**	**41,621**	**34,655**
Missouri	**26,635**	**27,478**	**69,849**	**77,984**	**38,594**	**36,968**
Nebraska	**8,355**	**8,467**	**12,554**	**14,868**	**5,116**	**4,107**
North Dakota	**40,530**	**37,603**	**6,467**	**10,166**	**12,640**	**9,518**
Ohio	**195,507**	**174,803**	**93,700**	**88,873**	**106,464**	**111,986**
Oklahoma	**1,172**	**418**	**26,213**	**17,136**	**24,679**	**21,875**
South Dakota	**38,625**	**35,955**	**14,495**	**17,378**	**8,409**	**5,119**
Tennessee	**9,476**	**9,578**	**46,311**	**48,757**	**42,657**	**42,537**
Wisconsin	**273,650**	**242,832**	**75,758**	**75,446**	**29,508**	**25,829**
Total	**1,313,802**	**1,199,459**	**717,889**	**659,821**	**718,861**	**823,790**
PAD District 3						
Alabama	1,773	1,252	47,236	48,271	88,349	89,473
Arkansas	55	65	10,684	15,094	20,300	22,016
Louisiana	99	79	54,428	78,948	36,289	50,978
Mississippi	180	669	25,175	33,410	34,130	24,766
New Mexico	514	533	23,573	29,700	71,161	100,920
Texas	1,334	3,441	234,553	343,872	184,732	210,129
Total	**3,956**	**6,038**	**395,553**	**549,295**	**434,962**	**498,282**
PAD District 4						
Colorado	**2,221**	**2,481**	**42,770**	**40,252**	**45,199**	**20,577**
Idaho	**25,838**	**24,134**	**18,114**	**17,741**	**20,019**	**17,846**
Montana	**9,850**	**10,364**	**8,361**	**12,817**	**18,124**	**21,278**
Utah	**5,520**	**4,254**	**29,284**	**30,925**	**40,870**	**32,639**
Wyoming	**1,293**	**1,390**	**11,315**	**11,472**	**47,085**	**50,001**
Total	**44,722**	**42,623**	**109,842**	**113,207**	**171,297**	**142,342**
PAD District 5						
Alaska	53,971	67,769	36,760	44,289	27,629	6,805
Arizona	264	814	20,391	22,266	37,327	38,623
California	9,380	11,983	265,230	289,047	215,198	274,630
Hawaii	74	35	25,357	20,297	4,738	4,832
Nevada	12,216	13,652	19,107	30,003	57,528	35,521
Oregon	77,372	73,365	63,832	68,111	29,093	32,295
Washington	127,023	127,228	111,008	97,895	38,595	44,765
Total	**280,499**	**294,846**	**541,685**	**571,909**	**410,107**	**437,472**
U.S. Total	**7,662,046**	**7,426,412**	**4,135,079**	**4,279,375**	**2,617,639**	**2,917,624**

...By End Use

(Add 000 gal.)

N.B.: In 1985, EIA began publishing two sets of product tables, one for sales, the other for deliveries. Both are based on the same raw data. The sales tables reflect the questionnaire totals; the deliveries table are adjustments to correlate them with other industry data. EIA's original objective was to switch to the sales tables and drop the deliveries tables. However, because of statistical disparities, this switch-over has been delayed indefinitely. The data on these pages are the deliveries tables and are compatible with prior NPN Factbook summaries even though the latter were then labelled "sales".

	Oil Company		Farm		Electric Utility	
	1988	1987	1988	1987	1988	1987
PAD District 1						
New England States						
Connecticut	240	2,053	1,905	2,513	2,405	730
Maine	11	141	6,112	3,930	606	1,647
Massachusetts	853	771	2,447	2,457	22,055	11,951
New Hampshire	63	21	2,303	1,596	1,233	1,124
Rhode Island	300	269	232	144	2,164	756
Vermont	25	74	8,679	7,579	1,908	2,374
Central Atlantic States						
Delaware	380	631	6,477	6,111	6,261	14,956
District of Columbia	—	—	—	—	71,720	34,230
Maryland	843	1,198	24,984	21,196	16,697	31,557
New Jersey	4,946	1,351	16,849	17,706	33,155	16,700
New York	7,506	5,366	50,739	43,021	81,982	43,499
Pennsylvania	14,121	17,119	33,615	53,781	60,890	53,043
Lower Atlantic States						
Florida	938	785	83,471	81,896	56,055	45,995
Georgia	156	398	66,123	69,287	12,510	5,382
North Carolina	22	454	43,810	38,153	18,434	18,118
South Carolina	692	991	21,478	19,480	8,692	7,437
Virginia	1,191	1,569	29,428	31,598	17,231	16,091
West Virginia	2,873	7,497	5,091	5,888	6,316	12,448
Total	**35,160**	**40,688**	**403,743**	**406,337**	**420,314**	**318,039**
PAD District 2						
Illinois	7,540	13,180	189,073	172,477	29,615	28,744
Indiana	1,289	888	85,050	90,390	19,048	18,922
Iowa	55	361	175,643	175,766	8,624	4,316
Kansas	7,730	6,881	146,670	132,207	6,280	2,616
Kentucky	574	603	44,062	50,880	8,740	10,033
Michigan	3,878	2,138	75,242	73,910	34,125	29,468
Minnesota	512	333	154,086	144,185	8,439	6,840
Missouri	465	540	75,031	57,913	9,594	11,601
Nebraska	458	631	159,059	140,097	647	2,418
North Dakota	2,686	6,089	82,674	86,566	1,999	1,713
Ohio	7,547	10,341	75,940	70,863	20,205	23,368
Oklahoma	23,790	25,779	51,635	41,092	86	177
South Dakota	11	13	91,500	83,315	1,265	74
Tennessee	984	911	37,536	38,275	2,842	4,046
Wisconsin	724	332	82,121	77,084	9,551	2,344
Total	**58,243**	**69,020**	**1,525,354**	**1,434,999**	**161,038**	**146,680**
PAD District 3						
Alabama	2,159	3,304	37,124	43,392	7,208	8,530
Arkansas	1,160	4,103	153,512	137,183	11,103	10,946
Louisiana	301,589	264,374	177,694	179,567	13,349	6,506
Mississippi	40,260	40,164	122,241	124,457	4,361	1,105
New Mexico	16,701	16,542	26,954	28,544	387	1,317
Texas	309,844	340,970	387,089	318,162	35,245	34,322
Total	**671,714**	**669,459**	**904,614**	**831,305**	**71,653**	**62,726**
PAD District 4						
Colorado	4,329	5,012	62,193	57,527	3,088	4,341
Idaho	93	97	66,078	63,953	48	208
Montana	1,032	1,735	37,452	39,971	1,043	1,549
Utah	1,555	3,571	16,783	11,302	4,386	8,849
Wyoming	13,434	20,435	10,187	13,394	5,931	4,630
Total	**20,442**	**30,850**	**192,693**	**186,148**	**14,497**	**19,577**
PAD District 5						
Alaska	42,770	9,312	358	76	34,863	25,736
Arizona	231	173	22,433	28,016	4,993	3,581
California	40,105	56,670	254,767	233,467	28,521	12,191
Hawaii	1,782	3,286	18,509	20,187	60,862	54,577
Nevada	165	653	8,360	6,304	1,768	1,415
Oregon	620	597	49,234	44,260	467	95
Washington	900	1,023	40,608	50,871	1,110	1,456
Total	**86,573**	**71,714**	**394,267**	**383,181**	**132,584**	**99,052**
U.S. Total	**872,133**	**881,729**	**3,420,671**	**3,241,968**	**800,085**	**646,073**

Distillate Deliveries 1988...

(Add 000 gal.)

	Railroad		Vessel Bunkering		On-Highway	
Destination	**1988**	**1987**	**1988**	**1987**	**1988**	**1987**
PAD District 1						
New England States						
Connecticut	148	176	6,717	1,669	212,589	188,172
Maine	9,209	8,847	9,216	2,611	175,344	157,344
Massachusetts	5,786	4,202	28,320	49,710	293,007	282,982
New Hampshire	147	168	513	764	58,051	54,975
Rhode Island	353	88	1,173	2,125	43,741	55,520
Vermont	3,266	2,719	352	320	53,918	50,607
Central Atlantic States						
Delaware	1,754	90	3,663	5,713	55,412	58,756
District of Columbia	4,124	402	34	29	23,033	21,822
Maryland	32,461	30,052	8,129	9,355	299,521	289,433
New Jersey	51,938	37,882	131,351	120,272	477,858	446,805
New York	37,347	31,033	10,926	35,488	713,826	633,543
Pennsylvania	86,371	72,994	25,185	32,523	928,175	868,850
Lower Atlantic States						
Florida	98,562	120,725	105,463	125,796	832,093	654,444
Georgia	86,978	88,701	24,757	9,210	831,267	772,080
North Carolina	54,875	57,175	8,625	9,493	711,035	580,195
South Carolina	37,173	38,296	8,945	15,699	310,365	282,618
Virginia	123,612	117,060	52,397	38,282	532,848	501,785
West Virginia	12,668	12,284	44,799	47,194	160,141	150,200
Total	**646,772**	**623,197**	**470,566**	**506,253**	**6,712,224**	**6,049,931**
PAD District 2						
Illinois	91,107	117,558	25,426	19,833	771,386	724,982
Indiana	194,874	185,655	10,966	12,014	626,647	696,704
Iowa	37,483	42,189	1,600	1,222	333,931	322,228
Kansas	151,350	148,252	—	—	331,926	351,717
Kentucky	122,547	122,068	85,058	86,396	512,517	356,046
Michigan	43,557	51,430	10,373	3,934	526,217	511,402
Minnesota	42,964	40,827	1,165	1,431	331,701	313,225
Missouri	35,426	30,314	46,860	38,863	535,424	487,083
Nebraska	162,856	126,525	—	217,014	201,014	201,014
North Dakota	39,863	37,165	—	89,873	89,873	89,873
Ohio	151,825	136,386	4,210	1,852	661,428	751,521
Oklahoma	66,814	55,496	369	1,523	394,165	383,820
South Dakota	1,767	1,694	—	—	91,906	89,852
Tennessee	93,724	89,033	103,212	82,357	578,829	562,038
Wisconsin	61,036	39,166	5,828	8,029	440,836	384,232
Total	**1,296,994**	**1,223,759**	**295,067**	**256,813**	**6,045,900**	**6,226,136**
PAD District 3						
Alabama	66,615	69,164	65,291	66,895	480,340	404,744
Arkansas	21,825	29,116	257	721	346,026	322,040
Louisiana	73,523	68,469	504,804	418,116	383,054	344,059
Mississippi	15,565	12,438	105,086	64,719	302,361	289,999
New Mexico	46,652	49,472	—	—	204,734	189,499
Texas	373,144	352,146	274,752	345,293	1,296,067	1,319,054
Total	**597,323**	**580,804**	**950,190**	**895,743**	**3,012,582**	**2,869,395**
PAD District 4						
Colorado	70,093	60,226	81	—	188,922	184,224
Idaho	23,782	20,0524	—	97	99,626	102,578
Montana	59,640	67,173	81	—	115,890	106,998
Utah	35,188	34,532	—	—	149,108	140,894
Wyoming	111,999	56,856	—	—	171,874	181,974
Total	**300,702**	**238,811**	**—**	**97**	**725,428**	**716,968**
PAD District 5						
Alaska	3,042	3,926	63,341	71,125	83,235	61,624
Arizona	23,781	37,439	—	—	299,981	269,026
California	194,446	237,239	370,162	301,011	1,760,085	1,256,749
Hawaii	19	39	60,545	39,061	21,935	20,219
Nevada	29,855	38,042	—	—	118,022	119,411
Oregon	91,261	103,546	33,063	35,403	302,381	269,015
Washington	75,056	60,857	67,352	117,752	357,017	314,460
Total	**417,459**	**481,090**	**594,463**	**564,352**	**2,942,856**	**2,310,504**
U.S. Total	**3,259,250**	**3,147,661**	**2,310,367**	**2,223,258**	**20,038,691**	**18,172,934**

...By End Use (Continued)

(Add 000 gal.)

	Military		Off-Highway		All Other		Total	
Destination	**1988**	**1987**	**1988**	**1987**	**1988**	**1987**	**1988**	**1987**
PAD District 1								
New England States								
Connecticut	1,305	3,906	12,010	11,894	281	976	957,661	885,432
Maine	2,304	1,825	20,028	13,662	—	138	574,305	502,548
Massachusetts	3,850	5,603	17,627	14,873	66	189	1,501,415	1,551,961
New Hampshire	75	946	6,110	9,256	—	7	284,329	316,658
Rhode Island	5,682	1,027	999	1,085	185	80	249,646	253,910
Vermont	620	736	7,404	4,544	142	136	194,829	182,901
Central Atlantic States								
Delaware	33	1,242	3,384	2,948	94	—	160,738	169,983
District of Columbia	8,836	10,618	81	165	—	13	143,240	112,055
Maryland	3,930	13,528	15,272	17,940	2,710	4,012	759,648	756,885
New Jersey	6,008	8,370	28,363	22,854	32	524	1,900,310	1,814,128
New York	12,611	3,807	41,963	41,920	263	475	3,159,737	3,051,777
Pennsylvania	4,653	22,535	45,595	38,908	187	1,294	2,457,425	2,411,580
Lower Atlantic States								
Florida	28,773	32,760	56,154	71,958	1,489	591	1,457,996	1,384,330
Georgia	12,085	9,868	35,397	33,482	4,165	4,886	1,171,711	1,092,293
North Carolina	4,308	4,938	28,443	32,484	2,780	5,343	1,323,790	1,191,782
South Carolina	3,221	2,449	24,928	16,671	1,277	2,272	529,879	500,360
Virginia	80,442	25,011	53,024	28,440	2,112	3,231	1,371,623	1,233,151
West Virginia	498	336	18,285	20,510	26	—	372,102	374,302
Total	**179,235**	**149,504**	**415,066**	**383,592**	**15,811**	**24,169**	**18,570,384**	**17,786,034**
PAD District 2								
Illinois	1,879	863	56,630	59,567	3,544	1,873	1,419,887	1,444,273
Indiana	4,031	4,571	17,954	13,395	3,198	4,340	1,210,126	1,333,373
Iowa	110	310	17,335	13,173	2,848	1,883	873,021	861,491
Kansas	1,947	3,670	17,127	21,062	1,518	1,368	896,175	899,033
Kentucky	10,793	5,971	21,276	21,543	719	1,598	1,037,117	862,991
Michigan	3,222	8,150	49,716	45,303	2,192	3,031	1,173,490	1,075,846
Minnesota	2,704	2,404	23,638	17,221	2,122	2,935	838,945	769,690
Missouri	6,309	6,879	37,120	33,224	6,791	3,602	888,098	812,428
Nebraska	1,423	1,260	18,094	17,881	—	241	585,578	517,588
North Dakota	2,505	2,512	5,470	5,562	76	390	284,583	286,029
Ohio	9,006	9,808	27,752	28,130	358	1,375	1,553,942	1,409,305
Oklahoma	2,412	2,045	28,108	29,677	4,616	4,816	624,037	583,655
South Dakota	730	2,098	11,684	11,838	336	265	260,730	247,601
Tennessee	1,054	1,552	59,940	63,348	1,236	1,033	977,804	943,467
Wisconsin	2,626	1,210	22,398	22,425	11,264	4,475	1,015,329	883,384
Total	**50,752**	**53,304**	**414,244**	**403,348**	**40,819**	**33,025**	**13,238,862**	**12,330,154**
PAD District 3								
Alabama	4,853	6,712	53,110	49,742	3,578	1,711	857,636	793,189
Arkansas	2,467	1,759	30,943	31,618	2,793	866	601,125	575,527
Louisiana	20,955	62,644	74,854	66,459	297	2,331	1,640,937	1,542,530
Mississippi	116,607	68,112	33,755	41,235	880	1,690	800,602	702,763
New Mexico	1,882	6,933	35,167	22,965	0	138	427,725	446,563
Texas	260,820	222,093	277,203	232,075	1,232	2,067	3,636,015	3,723,624
Total	**407,584**	**368,253**	**505,034**	**444,094**	**8,780**	**8,803**	**7,964,040**	**7,784,196**
PAD District 4								
Colorado	8,482	11,592	43,198	28,248	33	326	470,526	414,806
Idaho	2,542	2,735	17,004	18,379	—	291	273,223	268,385
Montana	480	435	11,171	12,565	213	145	263,266	275,031
Utah	3,797	1,314	21,284	16,630	—	338	307,776	285,248
Wyoming	283	459	22,388	22,860	165	4,726	395,953	368,196
Total	**15,584**	**16,537**	**115,045**	**98,682**	**410**	**5,827**	**1,710,744**	**1,611,666**
PAD District 5								
Alaska	17,561	27,611	13,855	25,802	40	227	377,423	344,301
Arizona	1,324	1,422	25,285	35,560	—	93	436,010	437,012
California	221,645	233,580	208,735	201,486	811	1,639	3,569,284	3,109,692
Hawaii	54,672	13,312	7,227	4,288	—	—	255,720	180,134
Nevada	4,928	1,967	32,792	25,818	33	458	284,773	273,244
Oregon	1,390	3,256	43,412	50,498	—	247	692,124	680,689
Washington	26,205	15,649	41,125	58,938	59	1,328	886,056	892,223
Total	**327,723**	**296,795**	**372,431**	**402,390**	**943**	**3,992**	**6,501,390**	**5,917,296**
U.S. Total	**980,877**	**884,392**	**1,821,819**	**1,732,106**	**66,763**	**75,815**	**47,985,420**	**45,629,346**

Source: Energy Information Administration, Petroleum Marketing Monthly, July 1989.

Deliveries of Kerosine in 1988...

(Add 000 gal.)

	Residential		Commercial		Industrial	
Destination	1988	1987	1988	1987	1988	1987
PAD District 1						
New England States						
Connecticut	7,811	9,778	1,288	2,685	4,842	553
Maine	15,219	15,166	3,091	994	344	69
Massachusetts	5,811	12,750	1,369	1,203	800	617
New Hampshire	8,488	9,692	846	877	135	523
Rhode Island	1,858	2,445	53	130	0	46
Vermont	5,967	6,034	1,231	793	866	17
Central Atlantic States						
Delaware	5,883	8,114	521	401	48	46
District of Columbia	164	257	83	13	5	23
Maryland	25,536	27,318	1,228	553	2,064	228
New Jersey	9,149	12,336	2,254	2,630	2,218	3,319
New York	80,759	77,279	4,023	7,645	14,520	954
Pennsylvania	56,638	51,713	8,158	7,880	4,418	5,315
Lower Atlantic States						
Florida	12,691	15,166	8,109	11,227	797	105
Georgia	3,989	3,125	411	815	717	296
North Carolina	79,124	77,210	4,985	3,307	3,597	3,905
South Carolina	24,839	27,767	503	1,267	2,166	1,940
Virginia	51,006	52,477	5,242	4,750	1,038	740
West Virginia	7,714	8,241	1,538	1,438	832	1,333
Total	**402,647**	**416,867**	**44,933**	**48,609**	**39,406**	**20,027**
PAD District 2						
Illinois	8,177	5,523	2,229	1,543	1,693	3,089
Indiana	19,572	14,902	2,960	1,828	2,782	3,750
Iowa	2,944	2,123	190	220	154	46
Kansas	759	687	361	567	69	94
Kentucky	24,333	16,457	5,409	2,478	5,924	4,194
Michigan	15,084	12,007	705	543	1,945	2,044
Minnesota	4,338	2,761	179	200	42	26
Missouri	2,195	1,970	614	231	224	52
Nebraska	608	485	73	159	37	2,370
North Dakota	294	210	41	42	0	—
Ohio	47,498	39,581	9,973	6,977	3,684	2,863
Oklahoma	941	805	1,616	194	219	1,102
South Dakota	516	544	9	24	5	1
Tennessee	23,642	16,651	9,127	4,683	1,425	2,599
Wisconsin	2,019	3,743	252	175	113	111
Total	**152,921**	**118,451**	**33,738**	**19,864**	**18,317**	**22,341**
PAD District 3						
Alabama	98,719	39,629	9,669	32,481	6,435	14,725
Arkansas	19,438	14,052	7,350	3,180	6,854	6,074
Louisiana	8,814	6,451	84,328	13,974	27,976	21,412
Mississippi	21,327	18,424	2,776	4,172	29,000	26,287
New Mexico	8,717	14,457	23,751	10,166	4,538	9,297
Texas	44,519	39,370	31,533	54,384	48,916	33,669
Total	**201,534**	**132,382**	**159,407**	**118,356**	**123,720**	**111,463**
PAD District 4						
Colorado	1,144	899	499	864	546	134
Idaho	257	213	46	61	10	6
Montana	50	44	1	1	0	-
Utah	223	287	170	579	460	65
Wyoming	54	71	139	73	115	118
Total	**1,728**	**1,515**	**855**	**1,578**	**1,131**	**323**
PAD District 5						
Alaska	192	11	10,965	65,325	7	5
Arizona	186	42	38	280	2,946	356
California	5,873	1,117	5,102	2,292	1,567	5,199
Hawaii	0	0	15	25	8	2
Nevada	975	275	486	52	115	148
Oregon	554	138	515	72	80	14
Washington	3,432	552	50,530	10,984	819	178
Total	**11,212**	**2,135**	**67,651**	**79,029**	**5,543**	**5,902**
U.S. Total	**770,042**	**671,350**	**306,584**	**267,437**	**188,117**	**160,057**

...By End Use

(Add 000 gal.)

N.B.: In 1985, EIA began publishing two sets of product tables, one for sales, the other for deliveries. Both are based on the same raw data. The sales tables reflect the questionnaire total; the deliveries table are adjustments to correlate them with other industry data. EIA's original objective was to switch to the sales tables and drop the deliveries tables. However, because of statistical disparities, this switch-over has been delayed indefinitely. The data on these pages are the deliveries tables and are compatible with prior NPN Factbook summaries even though the latter were then labelled "sales".

	Oil Company		Farm		Electric Utility	
	1988	1987	1988	1987	1988	1987
PAD District 1						
New England States						
Connecticut	10	15	93	906	14,044	13,937
Maine	365	412	366	449	19,365	17,091
Massachusetts	5	4	133	418	8,118	14,992
New Hampshire	27	15	46	98	9,541	11,205
Rhode Island	0	0	319	27	2,231	2,648
Vermont	730	543	37	226	8,831	7,612
Central Atlantic States						
Delaware	177	283	2	15	6,630	8,858
District of Columbia	—	—	29	27	281	320
Maryland	168	362	601	624	29,596	29,085
New Jersey	15	233	13,142	13,163	26,778	31,700
New York	1,884	1,381	916	12,770	102,102	100,030
Pennsylvania	848	2,595	1,578	2,698	71,640	70,200
Lower Atlantic States						
Florida	25	73	752	811	22,375	27,383
Georgia	870	784	547	277	6,534	5,297
North Carolina	2,617	2,170	2,847	1,509	93,171	88,101
South Carolina	462	608	811	1,113	28,782	32,695
Virginia	1,114	1,328	739	934	59,138	60,229
West Virginia	225	371	978	1,137	11,288	12,521
Total	**9,542**	**11,178**	**23,936**	**37,222**	**520,464**	**533,904**
PAD District 2						
Illinois	757	791	363	253	13,219	11,199
Indiana	672	768	878	944	26,864	22,193
Iowa	652	1,624	90	54	4,030	4,066
Kansas	288	645	103	661	1,580	2,654
Kentucky	1,065	722	131	110	36,862	23,962
Michigan	160	364	11	605	17,905	15,563
Minnesota	1,092	336	134	28	5,786	3,351
Missouri	161	341	528	86	3,722	2,680
Nebraska	318	306	1,830	521	2,865	3,840
North Dakota	78	24	148	1	560	278
Ohio	2,676	2,942	1,943	1,501	65,774	53,865
Oklahoma	389	155	174	82	3,339	2,339
South Dakota	162	133	36	4	729	706
Tennessee	286	76	3,227	867	37,708	24,876
Wisconsin	157	207	80	48	2,622	4,284
Total	**8,911**	**9,434**	**9,678**	**5,764**	**223,566**	**175,856**
PAD District 3						
Alabama	1,967	153	7,644	3,770	124,434	90,757
Arkansas	1,368	1,139	3,934	4,455	38,944	28,900
Louisiana	841	391	74,895	5,373	196,855	47,601
Mississippi	14,009	2,791	176	178	67,288	51,851
New Mexico	389	4,673	1,331	1,166	38,726	39,758
Texas	7,644	4,400	45,420	256,655	178,032	388,479
Total	**26,219**	**13,547**	**133,400**	**271,598**	**544,280**	**647,346**
PAD District 4						
Colorado	815	239	11	569	3,014	2,706
Idaho	22	9	4	2	338	292
Montana	86	210	0	2	137	258
Utah—	31	38	14	—	898	969
Wyoming	21	30	29	62	359	354
Total	**975**	**526**	**58**	**635**	**4,746**	**4,579**
PAD District 5						
Alaska	—	—	18	0	11,182	65,341
Arizona	12	3	58	1	3,240	683
California	155	63	403	671	13,100	9,342
Hawaii	0	0	—	—	23	27
Nevada	29	2	14	2	1,620	480
Oregon	9	1	11	5	1,169	229
Washington	137	7	7	1	54,926	11,721
Total	**343**	**76**	**511**	**680**	**85,260**	**87,822**
U.S. Total	**45,990**	**34,761**	**167,583**	**315,900**	**1,478,316**	**1,449,504:**

Residual Fuel Oil Deliveries in 1986...

(Add 000 gal.)

	Commercial		Industrial		Oil Company		Electric Utility	
Destination	1988	1987	1988	1987	1988	1987	1988	1989
PAD District 1								
New England States								
Connecticut	42,331	38,676	64,819	58,832	210	—	706,921	776,584
Maine	58,354	20,992	154,450	123,998	—	—	184,248	165,440
Massachusetts	106,355	84,667	113,447	212,160	—	—	1,219,964	1,318,023
New Hampshire	15,150	8,384	28,217	42,797	—	—	199,724	124,555
Rhode Island	19,242	15,103	19,664	24,845	—	—	30,750	31,645
Vermont	1,880	2,718	5,496	7,241	—	—	—	—
Central Atlantic States								
Delaware	5,514	4,931	21,542	22,959	13,245	4,802	131,732	97,930
District of Columbia	6,893	24,423	—	—	—	—	—	—
Maryland	22,317	54,307	30,198	22,337	2,699	1,503	214,869	180,516
New Jersey	88,596	70,965	158,008	179,640	5,405	1,370	565,072	319,839
New York	563,523	563,858	148,931	149,824	864	1,088	2,642,176	2,106,237
Pennsylvania	35,604	35,688	93,671	123,550	44,004	41,188	405,791	418,891
Lower Atlantic States								
Florida	65,351	60,201	123,738	52,888	148	16	1,610,455	1,175,781
Georgia	23,794	29,535	52,959	43,151	518	305	3,106	6,566
North Carolina	8,738	1,868	166,570	169,775	1,531	1,437	—	—
South Carolina	1,450	1,005	76,094	54,483	86	—	—	—
Virginia	12,529	29,434	88,195	83,272	548	537	133,724	210,172
West Virginia	5,364	109	12,837	12,997	1,395	2,947	—	—
Total	**1,093,004**	**1,046,861**	**1,358,836**	**1,378,749**	**70,652**	**55,193**	**8,048,533**	**6,932,080**
PAD District 2								
Illinois	26,349	40,298	80,448	80,391	54,890	39,679	88,120	133,635
Indiana	10,958	12,308	66,328	76,709	58,231	64,899	—	—
Iowa	898	785	10,837	4,049	—	—	—	—
Kansas	34	13	22,900	9,710	8,471	4,757	857	—
Kentucky	1,755	37	14,496	27,978	9,641	9,666	—	—
Michigan	8,760	5,938	87,920	78,214	10,087	10,834	84,750	28,588
Minnesota	13,494	5,700	32,289	38,002	11,588	9,313	18	—
Missouri	4,587	5,281	24,181	23,638	—	—	10,100	10,994
Nebraska	597	12	14,656	9,072	—	17	4,395	5,047
North Dakota	2,102	1,475	5,864	4,803	7,947	8,274	149	287
Ohio	3,590	2,195	95,190	72,490	11,186	11,898	18,924	2,876
Oklahoma	261	720	29,625	13,901	—	—	—	—
South Dakota	1,009	325	2,378	2,048	—	—	—	—
Tennessee	3,461	2,932	15,966	10,967	265	230	—	—
Wisconsin	11,278	5,115	32,297	42,699	6,092	4,345	—	—
Total	**89,133**	**83,134**	**535,374**	**494,670**	**178,390**	**163,913**	**207,313**	**181,427**
PAD District 3								
Alabama	239,051	162,819	228,899	232,027	7,646	7,972	—	—
Arkansas	—	—	74,254	112,818	—	—	5,737	156
Louisiana	72,608	113,758	953,765	895,919	5,101	15,614	9,319	814
Mississippi	5,470	9,666	227,266	27,073	—	—	46,542	5,781
New Mexico	—	—	26,452	24,033	—	168	1,430	546
Texas	186,691	227,900	198,385	339,009	6,670	46,577	8,132	869
Total	**500,819**	**514,143**	**1,709,023**	**1,630,878**	**19,417**	**70,331**	**71,158**	**8,167**
PAD District 4								
Colorado	—	—	1,001	8,860	—	—	51	—
Idaho	1,282	2,477	9,400	13,912	—	—	—	—
Montana	1,659	3,304	5,459	2,499	34,814	—	—	—
Utah	8,935	29,024	24,300	25,894	21,436	36,852	—	—
Wyoming	22,492	7,685	11,700	3,930	14,367	12,977	97	—
Total	**34,368**	**42,490**	**51,860**	**55,095**	**70,617**	**49,829**	**148**	—
PAD District 5								
Alaska	5,064	34,123	—	17,738	—	—	139	—
Arizona	15	—	512	304	—	—	1,110	333
California	13,463	16,483	70,687	110,579	72,778	142,937	673,885	61,948
Hawaii	53,758	22,334	2,234	2,875	14,606	13,814	500,191	433,360
Nevada	90	190	1,679	1,125	344	433	38,401	14,063
Oregon	5,417	3,819	25,357	27,001	902	418	—	—
Washington	3,596	954	99,510	91,332	5,588	5,749	—	520
Total	**81,403**	**77,904**	**199,979**	**250,954**	**94,218**	**163,350**	**1,213,726**	**510,225**
U.S. Total	**1,788,728**	**1,764,531**	**3,855,070**	**3,810,345**	**433,294**	**502,615**	**9,540,878**	**7,631,898**

...By End Use

N.B.: In 1985, EIA began publishing two sets of product tables, one for sales, the other for deliveries. Both are based on the same raw data. The sales tables reflect the questionnaire totals; the deliveries table are adjustments to correlate them with other industry data. EIA's original objective was to switch to the sales tables and drop the deliveries tables. However, because of statistical disparities, this switch-over has been delayed indefinitely. The data on these pages are the deliveries tables and are compatible with prior NPN Factbook summaries even though the latter were then labelled "sales".

	Railroad		Vessel Bunkering		Military		All Other		Total	
Destination	**1988**	**1987**	**1988**	**1987**	**1988**	**1987**	**1988**	**1987**	**1988**	**1987**
PAD District 1										
New England States										
Connecticut	—	—	876	202	4,924	3,488	—	—	820,082	877,782
Maine	—	270	12,270	117	—	2,145	—	—	409,322	312,962
Massachusetts	—	—	16,311	9,098	5,785	4,484	—	—	1,461,862	1,628,432
New Hampshire	—	—	445	16	6,363	12,449	—	—	249,899	188,201
Rhode Island	—	—	4,501	242	6,758	8,676	—	—	80,914	80,511
Vermont	—	—	—	—	—	133	—	—	7,376	10,092
Central Atlantic States										
Delaware	—	—	25,630	28,315	—	1,498	—	—	197,663	160,336
District of Columbia	—	—	—	—	499	—	—	—	7,392	24,423
Maryland	—	—	62,820	31,580	23,654	42,371	—	—	356,558	332,613
New Jersey	—	—	220,204	286,705	6,920	7,441	60	886	1,044,265	866,845
New York	—	—	81,687	46,638	13,303	13,176	2,884	4,457	3,453,368	2,885,277
Pennsylvania	—	—	158,577	140,530	3,078	3,672	—	—	740,726	763,519
Lower Atlantic States										
Florida	—	—	235,237	199,984	9,476	51,075	173	102	2,044,577	1,540,047
Georgia	—	—	12,092	11,401	1,783	1,403	—	—	94,252	92,361
North Carolina	—	—	5,898	11,382	10,411	9,668	187	178	193,355	188,309
South Carolina	—	—	19,391	13,598	5,360	1,284	—	—	102,381	70,371
Virginia	—	20	77,609	59,559	7,149	15,578	—	0	319,753	398,572
West Virginia	—	—	—	—	—	—	—	—	19,596	16,054
Total	**—**	**290**	**933,547**	**839,368**	**105,464**	**178,542**	**3,304**	**5,623**	**11,603,340**	**10,436,706**
PAD District 2										
Illinois	—	—	15,351	4,461	155	—	40	—	265,353	298,464
Indiana	—	—	6,831	4,923	—	—	—	—	142,348	158,837
Iowa	—	—	—	—	—	438	—	—	11,735	5,272
Kansas	—	—	—	—	—	—	—	—	32,263	14,481
Kentucky	—	—	—	—	—	—	—	—	25,892	37,681
Michigan	—	—	1,315	1,319	—	1,144	—	42	192,832	126,079
Minnesota	11	—	306	174	—	—	190	195	57,895	53,385
Missouri	22	—	—	—	4,218	—	—	—	43,107	39,913
Nebraska	—	4	—	—	—	—	16	10	19,664	14,162
North Dakota	—	—	—	—	—	—	—	1,150	16,062	15,989
Ohio	—	—	524	1,339	—	—	—	—	129,416	90,798
Oklahoma	—	—	—	—	—	—	—	—	29,886	14,621
South Dakota	—	—	—	—	—	—	—	—	3,387	2,373
Tennessee	—	—	66	21	548	—	—	—	20,306	14,150
Wisconsin	—	—	200	—	—	—	—	—	49,857	52,158
Total	**33**	**4**	**24,593**	**12,238**	**4,921**	**1,582**	**246**	**1,397**	**1,040,004**	**938,364**
PAD District 3										
Alabama	—	—	74,707	54,842	28	579	—	—	550,331	458,240
Arkansas	—	—	—	—	—	—	—	—	79,991	112,973
Louisiana	—	—	847,838	800,830	4,264	—	12,636	17,428	1,905,531	1,844,363
Mississippi	—	—	64,215	67,230	—	—	—	—	343,492	109,750
New Mexico	—	—	—	—	—	—	—	—	27,882	24,747
Texas	—	—	807,866	724,019	—	—	146,745	186,224	1,351,488	1,524,599
Total	**—**	**—**	**1,794,626**	**1,646,922**	**4,292**	**579**	**159,381**	**203,652**	**4,258,716**	**4,074,672**
PAD District 4										
Colorado	—	—	—	—	—	—	—	—	1,051	8,860
Idaho	—	—	—	—	—	—	—	—	10,682	16,388
Montana	—	—	—	—	—	—	—	76	41,932	5,879
Utah	—	—	—	—	—	—	—	—	54,670	91,769
Wyoming	—	—	—	—	—	—	172	5,896	48,829	30,488
Total	**—**	**—**	**—**	**—**	**—**	**—**	**172**	**5,972**	**157,164**	**153,364**
PAD District 5										
Alaska	—	—	5,624	5,404	—	—	—	—	10,828	57,265
Arizona	—	—	—	—	—	—	—	—	1,636	637
California	—	—	1,878,459	2,186,577	7,162	4,934	—	—	2,716,435	2,523,458
Hawaii	—	—	63,078	48,618	3,191	1,163	12,083	6,484	649,142	528,648
Nevada	—	—	—	—	—	—	—	—	40,513	15,812
Oregon	—	—	169,417	148,752	236	2,630	13	—	201,342	182,620
Washington	—	—	379,637	371,393	12,021	1,615	78	39	500,430	471,602
Total	**—**	**—**	**2,496,215**	**2,760,744**	**22,610**	**10,341**	**12,175**	**6,524**	**4,120,326**	**3,780,042**
U.S. Total	**33**	**294**	**5,248,981**	**5,259,272**	**137,287**	**191,045**	**175,279**	**223,168**	**21,179,550**	**19,383,168**

Distillate Deliveries by Annual Uses

(Add 000 bbl.)

Year	Residential	Commercial	Industrial	Farm	Oil Company	Electric Utilities	Diesel	Other	Total
1988	182,430	98,454	62,325	81,445	20,765	19,050	520,488	157,554	1,142,511
1987	176,819	101,890	69,472	77,190	20,994	15,383	473,930	150,741	1,086,419
1986	173,686	102,217	63,907	80,477	17,857	14,628	467,280	143,688	1,063,740
1985	171,736	107,481	61,730	78,841	20,869	12,246	411,420	99,984	1,046,827
1984 (a)	164,529	116,729	56,113	70,819	21,623	16,405	439,786	139,173	1,041,217
1983 (a)	159,481	112,392	54,030	67,582	21,510	11,744	408,594	131,142	981,926
1982	180,760	75,669	71,340	68,453	29,482	12,134	375,124	164,253	974,864
1981	197,400	78,663	80,216	69,665	29,185	18,192	378,853	180,302	1,032,476

(a) In 1984, (as it did in 1979), Energy Information Administration revised some of its sampling procedures and adjusted some of the categories to reflect market volumes. Thus the 1984 and 1983 data are estimates and may not be truly comparable to 1982 and the preceding years. Also, see special caveat at the top of the preceding pages.

Residual Deliveries by Annual Uses

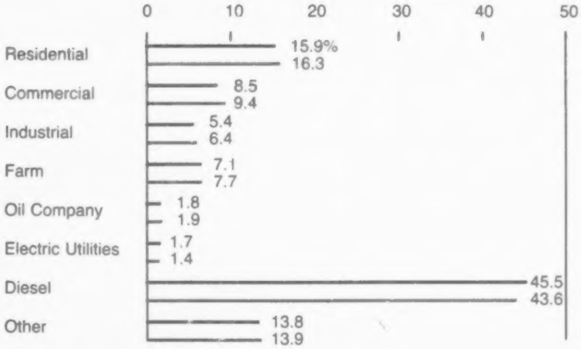
(Add 000 bbl.)

Year	Vessel Bunkering	Electric Utilities	Railroads	Oil Companies	Industrial	Commercial	Military	Other	Total
1988	124,976	227,164	1	10,317	91,787	42,589	3,269	4,173	504,276
1987	125,221	181,712	7	11,967	90,723	42,013	4,549	5,316	461,504
1986	125,889	215,276	14	18,239	106,962	35,595	4,308	7,434	517,717
1985	130,323	147,381	147	18,477	95,509	31,592	4,593	10,962	438,840
1984 (a)	135,408	186,318	43	27,680	94,375	33,777	5,291	18,307	501,199
1983 (a)	136,290	204,238	47	28,604	93,624	35,979	5,411	14,412	518,604
1982	152,586	227,419	170	45,319	122,619	65,781	7,829	4,784	626,510
1981	188,632	325,486	178	51,870	117,024	67,035	7,008	4,795	762,030

(a) See Footnote (a) in distillate summaries above.

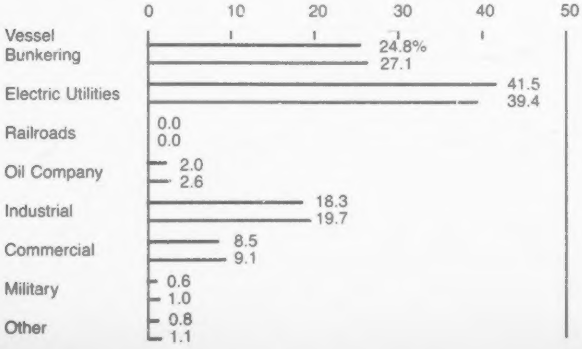
Distillate Deliveries by Use As Percent of Total

1988 = 1,142,511,000 bbl. 1987 = 1,086,419,000 bbl.

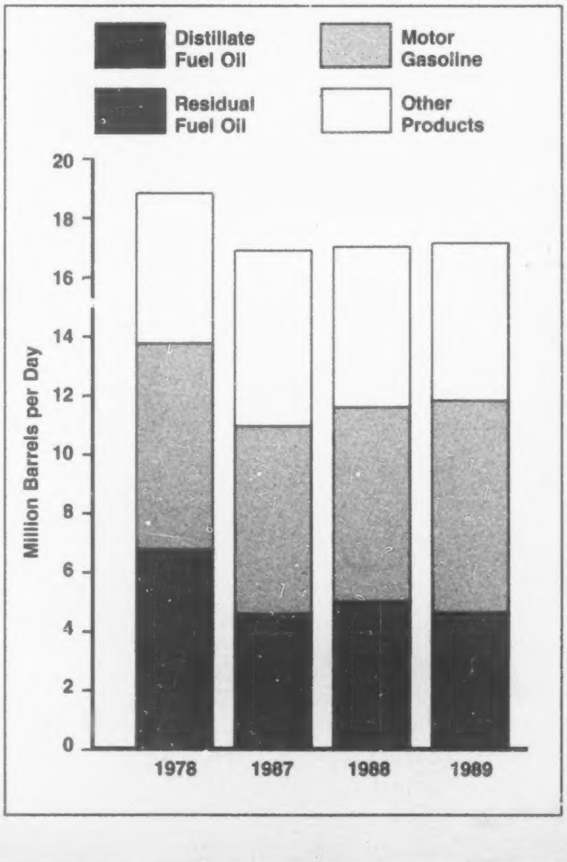


Residual Deliveries by Use As Percent of Total

1988 = 504,276,000 bbl. 1987 = 461,504,000 bbl.



Fuel Oil Demand vs. Other Products



U.S. Census: Fuel Oil and LPG Dealers With Payrolls—1987 vs. 1982

	Establishments Variable		Year-End		Dollar Sales (Add 000)			Per Establishment			Annual Payroll ($) (Add 000)			No. of Employees			Average Per Est.	
	1987	1982	1987	1982	1987	1982	% Chng.	1987	1982	% Chng.	1987	1982	% Chng.	1987	1982	% Chng.	1987	1982
Alabama (total)	225	223	219	217	(x)	157,883	(x)	(x)	707,996	(x)	(x)	19,053	(x)	(x)	1,581	(x)	(x)	7
Fuel oil dealers	5	7	4	7	2,135	(x)	(x)	427,000	(x)	(x)	219	(x)	(x)	23	(x)	(x)	5	(x)
LPG dealers	212	199	207	193	157,355	148,868	1.7	713,844	746,080	4.6	25,629	18,320	39.9	1,822	[illegible]	[illegible]	8	8
Misc.*	8	17	8	17	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)
Alaska (total)	66	54	61	52	78,452	(x)	(x)	1,188,667	(x)	(x)	6,985	(x)	(x)	386	(x)	(x)	5	(x)
Fuel oil dealers	49	39	46	38	68,465	87,670	(21.9)	1,397,245	2,247,949	(37.8)	5,136	5,808	(11.5)	284	252	4.8	5	6
LPG dealers	16	12	14	12	(x)	13,302	(x)	(x)	1,108,500	(x)	(x)	1,391	(x)	(x)	80	(x)	(x)	(x)
Misc.*	1	3	i	2	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)
Arizona (total)	85	87	80	85	(x)	53,543		(x)	615,437	(x)	(x)	5,646	(x)	(x)	478	(x)	(x)	5
Fuel oil dealers	3	6	2	6	(x)	728		(x)	121,333	(x)	(x)	75	(x)	(x)	7	(x)	(x)	1
LPG dealers	77	69	74	68	66,791	50,979	31.0	867,416	738,826	17.4	9,186	5,276	74.1	550	442	28.5	7	6
Misc.*	5	12	4	11	2,103	1,836	14.5	420,600	153,000	175.0	360	285	18.6	33	23	43.5	7	2
Arkansas (total)	186	191	178	185	(x)	143,958	(x)	(x)	753,706	(x)	(x)	15,987	(x)	(x)	1,178	(x)	(x)	6
Fuel oil dealers	9	8	9	8	9,662	12,755	(24.2)	1,073,556	1,594,375	(32.7)	408	467	(12.6)	35	39	(10.3)	4	5
LPG dealers	173	173	162	170	84,997	130,211	(34.7)	491,312	739,835	(33.4)	14,015	15,338	(8.6)	891	1,119	(20.4)	5	6
Misc.*	7	7	7	7	(x)	(x)	(x)	(x)	(x)	(x)	(x)	182	(x)	(x)	(x)	(x)	(x)	(x)
California (total)	457	420	430	406	402,878	383,674	5.0	881,571	913,510	(3.5)	57,499	36,437	57.8	3,287	2,646	21.3	7	6
Fuel oil dealers	34	27	32	24	24,368	20,003	21.8	716,706	740,852	(3.3)	2,358	1,271	85.5	155	115	34.8	5	4
LPG dealers	346	328	324	319	363,539	351,729	3.4	1,050,691	1,078,923	(2.6)	52,657	33,043	59.4	2,830	2,276	24.3	8	7
Misc.*	77	57	74	63	14,971	11,946	25.3	194,429	178,290	9.0	2,484	2,123	17.0	232	289	(11.2)	3	4
Colorado (total)	133	136	125	123	(x)	76,995	(x)	(x)	568,140	(x)	(x)	6,943	(x)	(x)	585	(x)	(x)	4
Fuel oil dealers	9	9	9	8	5,714	3,111	83.7	634,889	345,667	83.7	889	189	370.4	42	19	121.1	5	2
LPG dealers	109	101	102	93	72,546	66,817	8.6	665,578	661,545	0.6	8,387	6,010	39.6	502	460	9.1	5	5
Misc.*	15	26	14	22	(x)	7,067	(x)	(x)	271,808	(x;	(x)	744	(x)	(x)	67	(x)	(x)	3
Connecticut (total)	435	444	418	423	(x)	868,989	(x)	(x)	1,957,182	(x)	(x)	71,061	(x)	(x)	3,840	(x)	(x)	9
Fuel oil dealers	379	383	367	366	744,029	816,594	(8.9)	1,963,137	2,133,143	(8.0)	95,522	63,825	49.7	[illegible]	3,538	22.8	11	9
LPG dealers	46	51	41	48	53,726	50,407	6.6	1,167,957	988,373	18.2	10,404	7,011	48.4	491	380	29.2	11	7
Misc.*	10	10	10	9	(x)	1,588	(x)	(x)	158,800	(x)	(x)	225	(x)	(x)	25	(x)	(x)	3
Delaware (total)	56	66	52	65	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)
Fuel oil dealers	47	51	39	51	119,841	106,702	12.3	2,549,809	2,082,196	21.9	8,382	6,198	3.2	411	446	(6.0)	9	9
LPG dealers	14	13	12	13	33,156	13,785	140.5	2,368,286	1,060,384	123.3	4,999	2,394	108.8	330	138	165.7	24	11
Misc.*	1	2	1	1	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)
District of Columbia (total)	10	14	8	10	44,222	55,735	(20.7)	4,422,200	3,980,071	11.1	4,623	4,579	1.0	212	212	—	21	15
Fuel oil dealers	9	13	8	9	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)
LPG dealers	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Misc.*	1	1	0	1	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)
Florida (total)	443	484	415	459	388,301	387,721	0.3	876,526	801,076	9.4	66,646	47,170	41.3	3,882	3,786	2.8	9	8
Fuel oil dealers	117	145	109	130	79,817	106,448	(25.0)	673,650	734,124	(8.2)	9,336	8,480	10.4	678	838	(19.1)	6	6
LPG dealers	300	314	283	305	302,631	274,511	10.2	1,038,770	874,239	15.4	55,783	37,848	47.4	3,109	2,874	8.2	10	9
Misc.*	26	25	23	24	5,853	6,292	(7.0)	225,115	251,880	(10.6)	1,529	862	77.4	115	84	38.0	4	3
Georgia (total)	336	305	317	296	237,116	222,000	6.8	705,702	727,869	(3.6)	38,216	25,006	52.8	2,274	1,939	17.3	7	6
Fuel oil dealers	14	13	20	15	15,460	21,491	(28.1)	644,167	1,343,188	(52.0)	2,129	1,041	104.5	175	104	68.3	7	7
LPG dealers	294	268	281	280	212,665	195,516	8.8	723,350	729,537	(0.9)	35,172	23,246	51.3	2,012	1,749	15.0	7	7
Misc.*	18	21	16	21	8,991	4,983	80.1	499,500	237,762	110.1	9,157	718	27.4	67	66	1.2	6	4
Hawaii (total)	8	8	8	8	(x)	795	(x)	(x)	99,375	(x)	(x)	136	(x)	(x)	19	(x)	(x)	2
Fuel oil dealers	3	1	3	1	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)
LPG dealers	3	5	3	5	(x)	682	(x)	(x)	227,333	(x)	(x)	123	(x)	(x)	10	(x)	(x)	12
Misc.*	2	2	2	2	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)
Idaho (total)	65	56	60	55	(x)	43,510	(x)	(x)	776,984	(x)	(x)	4,057	(x)	(x)	340	(x)	(x)	8
Fuel oil dealers	8	12	7	12	8,458	4,991	69.5	1,057,250	415,917	154.2	934	385	136.9	80	56	48.2	10	5
LPG dealers	45	36	42	36	33,417	35,007	(4.5)	742,600	1,000,200	(25.8)	4,804	3,486	32.0	312	280	15.0	7	8
Misc.*	12	9	11	8	(x)	3,512	(x)	(x)	390,222	(x)	(x)	203	(x)	(x)	16	(x)	(x)	2

The Census Bureau has traditionally used year-end totals as its official count for retail establishments. The 1987 Census introduced a new approach: the number of establishments in existence at any given time—in other words, a peak (or variable) count. For example, note that the year-end total of dealers for Alabama in the table below is only 219 while the variable (floating) total is 225. The Census Bureau says the year-end count will be dropped in future censuses.

	Establishments				Dollar Sales						Annual Payroll ($)			No. of Employees			Average	
	Variable		Year-End		(Add 000)		%	Per Establishment		%	(Add 000)		%			%	Per Est.	
	1987	1982	1987	1982	1987	1982	Chng.	1987	1982	Chng.	1987	1982	Chng.	1987	1982	Chng.	1987	1982
Illinois (total)	310	333	293	323	219,337	314,120	(30.2)	707,536	943,303	(25.0)	30,677	26,431	16.1	1,754	1,718	2.1	6	5
Fuel oil dealers	69	91	61	87	72,335	135,181	(46.8)	1,048,333	1,493,198	(29.8)	6,980	6,146	13.8	404	390	3.6	6	4
LPG dealers	224	221	217	215	143,955	171,948	(16.3)	615,192	778,045	(26.5)	23,139	19,206	20.5	1,301	1,244	4.6	4	6
Misc.*	17	21	15	21	3,086	6,291	(50.9)	181,588	299,571	9.4	557	1,079	(48.4)	49	84	(41.7)	3	4
Indiana (total)	277	321	271	308	(x)	290,803	(x)	(x)	905,928	(x)	(x)	25,413	(x)	(x)	1,798	(x)	(x)	6
Fuel oil dealers	59	94	57	89	44,889	177,856	(61.9)	760,831	1,892,085	(59.8)	3,467	8,383	(45.8)	264	492	(46.3)	4	5
LPG dealers	205	207	202	201	131,143	169,262	(22.5)	639,722	817,691	(21.8)	19,374	18,492	4.8	1,161	1,233	(5.8)	6	6
Misc.*	13	20	12	18	(x)	3,685	(x)	(x)	184,250	(x)	(x)	538	(x)	(x)	73	(x)	(x)	4
Iowa (total)	250	248	234	240	(x)	200,921	(x)	(x)	810,165	(x)	(x)	16,438	(x)	(x)	1,096	(x)	(x)	4
Fuel oil dealers	47	51	42	48	23,269	45,232	(48.6)	495,085	886,902	(44.1)	1,867	2,797	(33.2)	169	199	(15.0)	4	4
LPG dealers	201	192	190	188	98,446	(x)	(x)	489,781	(x)	(x)	13,986	(x)	(x)	882	(x)	(x)	4	(x)
Misc.*	2	5	2	4	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)
Kansas (total)	131	124	125	119	64,978	77,823	(16.5)	496,015	627,605	(21.0)	7,928	8,370	(5.3)	572	679	(15.8)	4	5
Fuel oil dealers	22	19	20	19	(x)	13,729	(x)	(x)	722,579	(x)	(x)	925	(x)	(x)	79	(x)	(x)	4
LPG dealers.	100	96	96	91	51,608	62,494	(17.4)	516,080	650,979	(20.7)	6,709	7,066	(5.1)	458	573	(20.1)	5	6
Misc.*	9	9	9	9	(x)	1,600	(x)	(x)	177,777	(x)	(x)	379	(x)	(x)	27	(x)	(x)	3
Kentucky (total)	172	188	151	176	(x)	111,642	(x)	(x)	593,840	(x)	(x)	12,182	(x)	(x)	933	(x)	(x)	5
Fuel oil dealers	28	36	27	31	20,090	17,290	16.2	717,500	480,278	49.4	1,382	1,062	30.1	126	107	17.8	5	3
LPG dealers	122	122	108	119	77,005	86,932	(10.4)	631,189	704,361	(10.4)	12,096	9,969	21.3	738	727	1.5	6	6
Misc.*	22	30	16	26	(x)	8,420	(x)	(x)	280,667	(x)	(x)	1,151	(x)	(x)	99	(x)	(x)	3
Louisiana (total)	123	125	115	115	(x)	69,674	(x)	(x)	557,392	(x)	(x)	8,824	(x)	(x)	763	(x)	(x)	6
Fuel oil dealers	8	11	8	9	2,591	8,586	(69.8)	332,875	780,545	(57.4)	337	1,190	(71.7)	31	95	(67.4)	4	9
LPG dealers	106	97	101	91	51,074	59,253	(13.8)	480,830	610,856	(21.1)	9,830	7,369	33.4	643	677	2.6	6	6
Misc.*	9	17	7	15	(x)	1,835	(x)	(x)	107,941	(x)	(x)	265	(x)	(x)	41	(x)	(x)	2
Maine (total)	245	268	232	248	321,429	382,169	(15.9)	1,311,955	1,426,004	(8.0)	35,079	24,588	42.7	2,125	1,967	8.0	9	7
Fuel oil dealers	192	214	185	199	290,703	355,787	(18.3)	1,514,078	1,662,556	(8.9)	30,573	21,593	41.6	1,854	1,709	8.5	10	8
LPG dealers	36	36	34	34	27,727	23,848	16.3	770,194	662,444	16.3	*3,988	2,633	51.5	212	202	5.0	6	6
Misc.*	17	18	13	15	2,999	2,538	18.3	176,412	141,000	25.1	518	362	43.1	59	46	28.3	3	3
Maryland (total)	192	207	176	212	385,599	437,847	(11.9)	2,008,328	2,115,203	(5.0)	49,134	34,219	43.6	2,558	2,407	6.3	13	12
Fuel oil dealers	124	135	113	130	291,312	373,191	(21.9)	2,349,290	2,764,378	(15.0)	34,115	25,764	32.4	1,757	1,782	(1.4)	14	13
LPG dealers	55	61	53	61	92,376	63,709	45.0	1,679,564	1,044,410	60.1	14,649	8,301	77.1	761	605	25.8	14	10
Misc.	13	11	10	11	1,911	947	101.8	147,000	86,091	70.7	320	154	107.8	40	20	100.0	3	2
Massachusetts (total)	825	888	780	862	(x)	1,397,027	(x)	(x)	1,573,229	(x)	(x)	109,904	(x)	(x)	6,905	(x)	(x)	8
Fuel oil dealers	743	804	704	780	1,055,062	1,338,139	(21.2)	1,420,003	1,664,352	(14.7)	139,666	102,277	36.6	6,671	6,425	3.9	9	8
LPG dealers	65	61	61	60	74,613	52,603	41.8	1,147,892	862,344	33.1	11,551	6,818	69.4	594	405	46.7	9	7
Misc.*	17	23	15	22	(x)	6,285	(x)	(x)	273,261	(x)	(x)	809	(x)	(x)	75	(x)	(x)	3
Michigan (total)	335	332	337	323	(x)	358,217	(x)	(x)	1,078,967	(x)	(x)	29,498	(x)	(x)	2,216	(x)	(x)	7
Fuel oil dealers	136	137	124	133	158,857	178,779	(11.1)	1,168,066	1,304,956	(10.5)	12,236	10,597	15.5	748	1,008	(25.8)	6	7
LPG dealers	203	180	199	177	208,742	177,724	17.9	1,028,286	987,356	4.1	26,851	18,624	44.2	1,503	1,170	28.5	7	7
Micc.*	16	15	14	13	(x)	2,314	(x)	(x)	154,267	(x)	(x)	277	(x)	(x)	38	(x)	(x)	3
Minnesota (total)	236	287	222	236	(x)	274,090	(x)	(x)	955,017	(x)	(x)	23,403	(x)	(x)	1,512	(x)	(x)	5
Fuel oil dealers	91	106	85	96	120,309	138,749	(13.3)	1,322,077	1,308,953	1.0	9,208	7,665	20.1	663	635	4.4	7	6
LPG dealers	139	156	132	135	(x)	133,319	(x)	(x)	859,609	(x)	(x)	15,390	(x)	(x)	847	(x)	(x)	5
Misc.*	6	5	5	5	(x)	2,022	(x)	(x)	404,400	(x)	(x)	348	(x)	(x)	30	(x)	(x)	5
Mississippi (total)	200	184	194	178	(x)	148,074	(x)	(x)	804,750	(x)	(x)	17,549	(x)	(x)	1,406	(x)	(x)	7
Fuel oil dealers	5	9	5	9	(x)	2,616	(x)	(x)	290,667	(x)	(x)	201	(x)	(x)	28	(x)	(x)	3
LPG dealers	190	170	184	164	144,799	144,802	–	762,100	851,776	(10.5)	23,165	17,303	33.9	1,497	1,370	9.3	8	8
Misc.*	5	5	5	5	(x)	656	(x)	(x)	130,200	(x)	(x)	45	(x)	(x)	8	(x)	(x)	2
Missouri (total)	453	459	437	430	241,631	250,858	(3.7)	533,402	546,532	(2.4)	30,296	23,619	31.1	2,289	2,009	13.9	5	4
Fuel oil dealers	39	41	36	40	(x)	30,850	(x)	(x)	752,439	(x)	(x)	(xx)	(x)	(x)	157	(x)	(x)	4
LPG dealers	406	410	393	384	196,021	218,729	(10.8)	482,810	533,485	(9.5)	27,521	21,883	25.8	1,842	1,813	1.6	5	4
Misc.*	8	8	8	6	(x)	1,279	(x)	(x)	159,875	(x)	(x)	245	(x)	(x)	39	(x)	(x)	5

Continued.....

U.S. Census: Fuel Oil and LPG Dealers With Payrolls—1987 vs. 1982 (Cont.)

	Establishments				Dollar Sales						Annual Payroll ($)			No. of Employees			Average	
	Variable		Year-End		(Add 000)		%	Per Establishment		%	(Add 000)		%			%	Per Est.	
	1987	1982	1987	1982	1987	1982	Chng.	1987	1982	Chng.	1987	1982	Chng.	1987	1982	Chng.	1987	1982
Montana (total)	62	55	55	52	(x)	22,459	(x)	(x)	408,345	(x)	(x)	2,247	(x)	(x)	191	(x)	(x)	3
Fuel oil dealers	6	8	4	8	(x)	2,482	(x)	(x)	310,250	(x)	(x)	189	(x)	(x)	17	(x)	(x)	2
LPG dealers	53	42	49	30	23,032	19,621	17.4	434,566	467,167	(7.0)	3,697	1,965	88.1	237	158	5.0	4	4
Misc.*	3	5	2	5	(x)	356	(x)	(x)	71,200	(x)	(x)	93	(x)	(x)	16	(x)	3	3
Nebraska (total)	126	113	121	109	(x)	77,994	(x)	(x)	690,212	(x)	(x)	6,897	(x)	(x)	555	(x)	(x)	5
Fuel oil dealers	19	18	17	16	13,289	15,632	(15.0)	699,421	868,444	(19.5)	990	817	21.2	92	86	6.5	5	5
LPG dealers	103	89	100	87	43,504	59,073	(26.4)	422,369	663,742	(36.3)	6,305	5,662	11.4	420	425	(1.2)	[illegible]	5
Misc.*	4	6	4	6	(x)	3,289	(x)	(x)	411,125	(x)	(x)	418	(x)	(x)	44	(x)	(x)	6
Nevada (total)	47	41	44	41	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)
Fuel oil dealers	8	7	7	7	10,218	16,038	(36.3)	1,277,250	2,291,143	(44.3)	1,631	1,476	10.5	77	76	1.3	10	11
LPG dealers	32	30	32	30	28,138	27,392	2.7	879,313	913,067	(3.7)	4,258	2,931	45.3	247	244	1.2	8	8
Misc.*	7	4	5	4	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)
New Hampshire (total)	175	201	163	186	(x)	283,641	(x)	(x)	1,411,149	(x)	(x)	24,809	(x)	(x)	1,786	(x)	(x)	9
Fuel oil dealers	136	154	125	141	227,213	248,757	(8.7)	1,670,684	1,615,305	3.4	27,807	20,668	34.5	1,475	1,500	(1.7)	11	10
LPG dealers	24	34	24	32	40,908	33,292	22.9	1,704,500	979,176	74.1	7,130	3,913	82.2	293	261	12.3	12	8
Misc.*	15	13	14	13	(x)	1,592	(x)	(x)	122,462	(x)	(x)	228	(x)	(x)	25	(x)	(x)	2
New Jersey (total)	568	619	534	597	992,959	1,236,038	(19.7)	1,748,167	1,996,830	(12.5)	130,109	99,169	31.2	5,928	5,781	2.5	10	9
Fuel oil dealers	501	550	470	531	909,097	1,161,502	(21.7)	1,814,565	2,111,822	(14.1)	116,194	89,636	29.6	5,273	5,209	1.2	11	9
LPG dealers	54	58	51	55	(x)	72,247	(x)	(x)	1,245,638	(x)	(x)	9,340	(x)	(x)	562	(x)	(x)	10
Misc.*	13	11	13	11	(x)	2,289	(x)	(x)	208,091	(x)	(x)	193	(x)	(x)	10	(x)	(x)	1
New Mexico (total)	99	85	97	83	(x)	43,379	(x)	(x)	541,341	(x)	(x)	4,423	(x)	(x)	382	(x)	(x)	4
Fuel oil dealers	3	1	3	1	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)
LPG dealers	89	80	87	78	53,470	42,562	25.6	600,787	532,025	12.9	7,163	4,179	71.4	493	361	36.6	6	5
Misc.*	7	4	7	4	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)
New York (total)	1,229	1,295	1,175	1,232	2,316,331	3,037,837	(23.8)	1,884,728	2,345,820	(19.7)	294,435	233,347	26.2	13,179	12,754	3.3	11	10
Fuel oil dealers	994	1,054	953	1,001	2,098,451	2,847,063	(26.3)	2,111,118	2,701,198	(21.8)	255,558	207,613	23.1	11,290	11,047	3.3	11	10
LPG dealers	206	201	195	194	205,332	171,727	19.6	996,757	854,363	16.7	36,798	23,576	58.1	1,770	1,496	18.3	9	7
Misc.*	29	40	27	37	12,548	19,047	(34.1)	432,690	476,175	(9.1)	2,079	2,158	(3.7)	119	212	(43.9)	4	5
North Carolina (total)	457	712	436	483	(x)	404,090	(x)	(x)	567,542	(x)	(x)	33,461	(x)	(x)	2,876	(x)	(x)	4
Fuel oil dealers	230	265	220	256	240,005	241,008	(0.4)	1,043,500	909,766	14.7	19,895	15,353	29.6	1,323	1,309	1.1	6	5
LPG dealers	214	219	206	202	192,047	154,869	24.0	897,416	760,164	26.9	28,799	17,135	68.0	1,666	1,437	15.9	8	7
Misc.*	13	28	10	25	(x)	8,133	(x)	(x)	290,464	(x)	(x)	973	(x)	(x)	132	(x)	(x)	5
North Dakota (total)	94	73	87	63	50,155	52,704	(3.9)	533,564	715,123	(25.5)	4,880	3,284	48.6	328	256	28.1	3	7
Fuel oil dealers	34	36	33	32	30,341	36,348	(16.5)	892,382	1,009,667	(11.6)	2,110	1,729	22.0	130	143	(9.0)	2	4
LPG dealers	58	36	52	30	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)
Misc.*	2	1	2	1	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)
Ohio (total)	333	332	319	316	(x)	321,204	(x)	(x)	968,988	(x)	(x)	26,888	(x)	(x)	1,840	(x)	(x)	6
Fuel oil dealers	136	137	128	128	148,627	151,933	(2.2)	1,052,846	1,109,000	(1.5)	10,675	7,854	35.9	755	584	29.3	6	4
LPG dealers	176	163	171	159	169,927	162,616	4.5	954,646	997,644	(4.3)	25,129	18,308	37.3	1,240	1,180	5.1	7	7
Misc.*	21	32	20	29	(x)	6,655	(x)	(x)	207,969	(x)	(x)	726	(x)	(x)	76	(x)	(x)	2
Oklahoma (total)	197	179	187	166	82,188	86,632	(5.1)	417,198	483,978	(13.8)	10,561	8,780	20.3	832	733	13.5	4	4
Fuel oil dealers	28	20	25	17	(x)	6,485	(x)	(x)	324,250	(x)	(x)	560	(x)	(x)	45	(x)	(x)	2
LPG dealers	164	154	158	145	67,012	79,496	(15.7)	408,610	516,208	(20.1)	9,241	8,121	13.8	718	670	7.2	4	4
Misc.*	5	5	4	4	(x)	651	(x)	(x)	130,200	(x)	(x)	99	(x)	(x)	18	(x)	(x)	4
Oregon (total)	115	128	107	120	112,861	168,733	(33.1)	981,400	1,318,227	(25.6)	11,752	13,642	(13.9)	758	952	(20.0)	7	7
Fuel oil dealers	49	67	44	61	75,482	132,054	(42.8)	1,540,449	1,971,030	(21.8)	6,925	9,868	(29.8)	440	681	(35.4)	9	10
LPG dealers	49	45	47	44	34,708	32,493	6.8	708,327	722,067	(1.9)	4,388	3,144	39.6	276	224	23.2	6	5
Misc.*	17	16	16	15	2,671	4,221	(36.7)	157,118	263,813	(40.4)	439	630	30.3	42	47	10.6	2	3
Pennsylvania (total)	834	870	801	844	1,355,420	1,589,201	(14.7)	1,625,204	1,826,668	(11.0)	151,166	114,250	32.3	7,890	7,814	1.0	9	9
Fuel oil dealers	598	613	581	597	1,187,005	1,400,818	(15.3)	1,984,958	2,285,184	(13.1)	128,169	91,958	37.2	6,500	6,238	4.2	11	10
LPG dealers	166	175	157	169	150,023	140,168	7.0	903,753	800,960	12.8	23,004	19,176	20.0	1,211	1,289	1.0	7	7
Misc.*	70	82	63	78	18,392	48,415	(62.0)	262,743	590,427	(55.5)	1,993	3,116	(36.0)	179	287	(37.6)	3	4

	Establishments				Dollar Sales						Annual Payroll ($)			No. of Employees			Average	
	Variable		Year-End		(Add 000)		%	Per Establishment		%	(Add 000)		%			%	Per Est.	
	1987	1982	1987	1982	1987	1982	Chng.	1987	1982	Chng.	1987	1982	Chng.	1987	1982	Chng.	1987	1982
Rhode Island (total)	151	177	145	169	182,170	258,396	(29.5)	1,206,428	1,459,864	(17.4)	26,809	20,292	32.1	1,445	1,368	5.6	10	8
Fuel oil dealers	137	157	131	150	170,201	243,056	(30.0)	1,242,343	1,548,127	(19.8)	24,913	18,600	33.9	1,352	1,247	8.4	10	8
LPG dealers	12	12	12	12	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)
Misc.*	2	8	2	7	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)
South Carolina (total)	199	215	189	202	(x)	168,645	(x)	(x)	784,395	(x)	(x)	16,099	(x)	(x)	1,342	(x)	(x)	6
Fuel oil dealers	74	83	69	80	57,689	79,529	(27.5)	779,581	950,181	(18.6)	4,873	4,063	19.9	394	392	–	5	5
LPG dealers	114	122	112	113	96,745	87,805	10.4	848,640	719,713	(17.9)	17,109	11,685	46.4	705	913	(1.4)	8	8
Misc.*	11	10	8	9	(x)	1,511	(x)	(x)	151,100	(x)	(x)	352	(x)	(x)	32	(x)	(x)	3
South Dakota (total)	82	86	79	76	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)
Fuel oil dealers	25	27	25	25	20,647	17,788	16.1	825,880	658,815	25.4	1,225	1,066	14.9	111	110	0.0	4	4
LPG dealers	56	56	53	48	22,609	33,041	(31.6)	403,732	590,018	(31.6)	3,297	2,674	23.3	241	224	7.6	4	4
Misc.*	1	3	1	3	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)
Tennessee (total)	136	153	129	143	80,525	111,305	(27.7)	592,118	727,484	(18.6)	12,124	9,887	22.6	741	792	(6.4)	5	5
Fuel oil dealers	11	17	11	15	9,392	16,577	(43.3)	853,818	975,118	(12.4)	654	758	(13.7)	52	79	(34.2)	5	5
LPG dealers	107	109	102	102	67,349	77,215	(12.8)	629,430	708,394	(11.1)	16,787	7,498	43.9	612	582	5.2	6	5
Misc.*	18	27	16	26	3,787	17,513	(78.4)	210,389	648,630	(67.6)	684	1,631	(58.1)	77	131	41.2	4	5
Texas (total)	638	604	598	574	379,756	458,627	(17.2)	595,229	759,316	(21.6)	59,416	45,584	30.3	3,820	3,501	9.1	6	6
Fuel oil dealers	52	61	50	51	58,114	68,409	(15.0)	1,117,577	1,129,574	(1.1)	4,424	3,230	37.0	290	234	23.9	6	4
LPG dealers	537	494	506	479	308,942	374,179	(17.4)	575,311	757,447	(24.0)	53,040	40,425	31.2	3,320	3,064	8.4	6	6
Misc.*	49	49	42	44	12,700	16,039	(20.8)	259,184	327,327	(20.8)	1,952	1,929	1.2	210	203	3.4	4	4
Utah (total)	55	50	43	46	(x)	43,289	(x)	(x)	(x)	(x)	(x)	3,418	(x)	(x)	259	(x)	(x)	5
Fuel oil dealers	5	12	4	10	(x)	20,149	(x)	(x)	(x)	(x)	(x)	930	(x)	(x)	68	(x)	(x)	6
LPG dealers	45	30	34	28	22,173	21,344	3.9	492,733	711,467	(30.7)	3,288	2,218	48.2	272	167	62.9	6	6
Misc.*	5	8	5	8	1,162	1,796	(35.3)	232,400	224,500	3.5	137	270	(60.5)	16	24	33.3	3	3
Vermont (total)	126	148	118	142	172,757	166,885	3.5	1,371,087	1,127,601	21.6	21,312	13,551	57.3	1,139	1,027	10.9	6	7
Fuel oil dealers	90	96	85	92	146,089	140,208	4.2	1,632,211	1,460,500	11.8	16,738	10,375	61.3	871	752	15.8	10	8
LPG dealers	29	41	27	40	25,883	25,557	1.3	892,517	623,341	43.2	4,471	3,044	46.9	255	256	–	9	6
Misc.*	7	11	6	10	785	1,120	(29.9)	112,148	101,818	10.1	103	132	(22.0)	13	19	(3.2)	2	2
Virginia (total)	317	376	299	353	455,091	524,994	(13.3)	1,435,618	1,396,261	2.8	53,776	43,319	24.1	3,168	3,184	0.0	10	8
Fuel oil dealers	187	219	180	206	333,033	417,526	(20.2)	1,780,925	1,906,511	(6.6)	35,025	29,297	19.6	2,118	2,105	0.0	11	10
LPG dealers	97	105	89	98	115,789	86,678	33.6	1,193,701	825,505	44.6	17,570	11,567	51.9	918	834	10.1	9	8
Misc.*	33	52	30	49	6,289	20,790	(69.7)	190,576	399,808	(52.3)	1,181	2,455	(51.9)	132	245	(46.1)	4	5
Washington (total)	166	203	161	195	151,961	246,656	(38.4)	915,428	1,215,054	(24.7)	22,311	22,896	(2.6)	1,157	1,360	(14.9)	10	7
Fuel oil dealers	83	123	82	117	107,677	192,617	(44.1)	1,297,313	1,565,992	(17.2)	16,117	17,437	(7.6)	762	926	(15.6)	9	8
LPG dealers	63	64	59	63	39,774	49,677	(19.9)	631,333	776,203	(18.7)	5,307	4,475	18.6	306	355	(13.8)	5	6
Misc.*	20	16	20	15	4,510	4,362	3.4	225,500	272,625	(17.3)	887	984	(9.9)	69	79	(12.7)	3	5
West Virginia (total)	44	49	43	45	(x)	42,199	(x)	(x)	861,204	(x)	(x)	4,222	(x)	(x)	332	(x)	(x)	7
Fuel oil dealers	14	15	13	14	(x)	16,719	(x)	(x)	1,114,600	(x)	(x)	868	(x)	(x)	70	(x)	(x)	5
LPG dealers	25	28	25	27	16,127	15,693	2.8	645,080	560,464	15.1	2,512	2,082	20.7	150	180	(16.7)	6	6
Misc.*	5	6	5	4	(x)	9,787	(x)	(x)	1,631,167	(x)	(x)	1,272	(x)	(x)	82	(x)	(x)	14
Wisconsin (total)	318	320	295	313	(x)	418,750	(x)	(x)	1,308,594	(x)	(x)	30,119	(x)	(x)	2,069	(x)	(x)	6
Fuel oil dealers	140	160	126	157	149,604	279,046	(46.4)	1,068,600	1,744,038	(38.7)	11,794	14,845	(20.6)	798	1,056	(24.4)	6	7
LPG dealers	165	151	158	147	116,129	138,726	(16.3)	703,812	918,715	(23.4)	19,343	15,141	27.8	1,124	991	13.4	7	7
Misc.*	13	9	11	9	(x)	978	(x)	(x)	108,667	(x)	(x)	133	(x)	(x)	22	(x)	(x)	2
Wyoming (total)	63	46	62	43	26,323	28,144	(6.4)	417,825	611,826	(31.7)	4,293	3,007	42.8	275	245	12.2	4	5
Fuel oil dealers	3	3	3	3	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)
LPG dealers	53	39	52	36	21,251	24,851	(14.5)	419,830	637,205	(34.1)	3,629	2,746	32.2	229	219	4.6	4	6
Misc.*	7	4	7	4	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)
Total U.S.	12,908	13,362	12,226	12,737	14,249,693	16,817,557	(15.3)	1,103,943	1,258,611	(12.3)	1,834,191	1,404,806	30.6	99,618	95,092	4.8	8	7
Total Fuel oil only	5,816	6,368	5,511	6,061	9,294,115	11,754,264	(20.9)	1,598,025	1,845,833	(13.4)	1,059,034	830,123	27.6	54,035	52,754	2.8	9	8
Total LPG only	6,378	6,115	6,073	5,898	4,769,309	4,804,521	(0.7)	747,775	785,694	(4.8)	745,963	543,913	37.1	43,045	39,292	9.6	7	6
Misc. Total	714	839	642	778	186,269	259,172	(28.1)	260,880	308,906	(15.5)	29,914	36,770	(5.1)	2,538	3,046	(16.7)	4	4

x – Withheld to avoid disclosing data for individual companies or for other reasons. * – Includes fuel oil and ice dealers not classified elsewhere

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(a)The U.S. Census Bureau makes a study of retail trades every five years. The data in this table were extracted by NPN from the state-by-state reports published in the spring, summer and fall of 1989.

Source: 1987 Census of Retail Trades, Bureau of the Census.

Industry Profiles — 1989

Petroleum Products Sold (% of total volume)

	No. 2	No. 1	No. 4	Nos. 5&6	No. 2 for Diesel	Gasoline	Lpg/Lng	Other
New England	80.7	3.2	0.4	*	9.2	7.3	0.5	0.3
Mid-Atlantic	76.1	3.2	0.4	0.1	8.0	9.9	0.8	1.5
South	42.2	11.3	0.2	0.2	18.0	36.6	2.3	0.7
Midwest	28.8	7.7	2.2	0.4	25.6	35.6	2.4	1.3
West	39.5	6.2	*	*	32.8	31.4	2.3	1.4
All Sections	**53.5**	**6.3**	**0.6**	**0.1**	**18.7**	**24.2**	**1.7**	**1.0**

** - Less than .1%*

Dealers Operating Bulk Plants (%)

	With Bulk Plants	Bulk Plants Storing Other Prods
New England	48.8	47.6
Mid-Atlantic	58.1	68.0
South	90.7	84.6
Midwest	90.7	94.9
West	76.7	93.9
All Sections	**73.0**	**77.8**

Dealers Trading on the Oil Futures Market

New England	27.9
Mid-Atlantic	4.6
South	7.0
Midwest	2.3
West	2.3
All Sections	**8.8**

** - Less than .1%*

Fuel Oil Dealers Who Sell, Install and/or Service Equipment (%)

New England	100.0
Mid-Atlantic	100.0
South	20.9
Midwest	34.9
West	34.8
All Sections	**58.1**

Average Size of Business

	No. of Home Fuel Oil Accts.	No. C/I Accts.	Gals. of Distillate	Gals. of Residual	Gals. of Gasoline	No. of Empls.
New England	2,044	292	1,935,235	218,059	636,765	18.6
Mid-Atlantic	2,213	280	2,211,944	476,389	1,340,206	14.1
South	690	87	1,458,685	165,343	1,788,160	8.9
Midwest	678	231	1,624,027	ID	2,366,972	9.6
West	1,190	301	1,735,452	143,548	1,146,032	8.2
All Sections	**1,363**	**238**	**1,793,069**	**250,834**	**1,455,627**	**11.9**

I.D. - Insufficient Data

Percent of Fuel Oil Dealers Who Sell, Install and/or Service Selected HVAC Equipment

RESIDENTIAL

	Oil Burners	Gas Burners	Domestic Hot Water	Boilers	Hydronic Systems
New England	100.0	7.0	97.7	67.4	79.1
Mid-Atlantic	97.7	37.2	88.4	93.0	67.4
South	70.0	30.0	60.0	30.0	10.0
Midwest	53.3	16.7	20.0	33.3	13.3
West	93.3	20.0	53.3	53.3	26.7
All Sections	**82.9**	**22.2**	**63.9**	**55.4**	**39.3**

COMMERCIAL

	Oil Burners	Gas Burners	Domestic Hot Water	Boilers	Hydronic Systems
New England	72.1	25.6	60.5	65.1	48.8
Mid-Atlantic	53.5	18.6	39.5	46.5	30.2
South	30.0	20.0	30.0	30.0	10.0
Midwest	6.7	ID	ID	ID	ID
West	53.3	20.0	26.7	20.0	16.7
All Sections	**43.1**	**21.1**	**39.2**	**40.4**	**26.4**

I.D. - Insufficient Data

Source: All data on the four pages dealing with Fuel Oil Industry Profiles, Fuel Oil News, December 1989

Computer Applications
(% of marketers using EDP for listed operations)

	New England	Mid-Atlantic	South	Mid-West	West	All Sections
Accts Rec/Billing	100.0	88.9	95.6	100.0	92.9	95.5
General Ledger	75.9	77.8	76.2	78.3	89.3	79.5
Accs Payable	58.6	66.7	71.4	82.6	78.6	71.6
Delivery Sched	100.0	69.4	42.9	26.1	42.9	56.3
Inventory Recon	48.3	33.3	71.4	56.5	60.7	54.0
Excise Tax	44.8	33.3	57.1	65.2	42.9	48.7
Word Processing	58.6	33.3	19.0	56.2	60.7	45.6
Payroll	27.6	36.1	47.6	52.2	50.0	42.7
Fixed Assets	20.7	36.1	28.6	34.8	42.9	32.6
Pricing Analysis	13.8	19.4	23.3	4.3	32.1	18.6
Supplier Costs	6.9	19.4	23.3	4.3	35.7	17.9
Oil Price Info	10.3	19.4	19.0	17.4	21.4	17.5
Comm w/Stations	6.9	8.3	9.5	4.3	28.6	11.5

Trucks per Marketer

	—Average No.—		—Avg. Size— (in gals.)		
	Delivery Trucks	Trailers	Largest	Smallest	Opt.Size Preferred
New England	4.2	0.8	3,026	2,544	2,932
Mid-Atlantic	5.3	0.8	3,150	2,295	2,977
South	3.7	0.9	2,379	1,756	2,300
Midwest	3.4	0.6	2,479	1,870	2,309
West	4.4	1.1	2,660	1,746	2,825
All Sections	**4.2**	**0.8**	**2,739**	**2,042**	**2,669**

Engines by Type
(% of readers)

	——Use——			——Prefer——	
	Diesel	Gasoline	Both	Diesel	Gasoline
New England	60.0	10.0	30.0	82.5	7.5
Mid-Atlantic	38.1	14.3	47.6	88.1	4.8
South	9.3	41.9	39.5	48.8	37.2
Midwest	20.9	44.2	32.6	53.5	30.2
West	20.0	25.0	55.0	67.5	15.0
All Sections	**29.7**	**27.1**	**40.9**	**68.1**	**18.9**

Truck Tanks by Type
(% of readers)

	——Use——			——Prefer——	
	Steel	Aluminum	Both	Steel	Aluminum
New England	17.9	28.2	53.8	12.8	74.4
Mid-Atlantic	29.7	27.0	43.2	18.9	75.7
South	41.9	11.6	30.2	25.6	51.2
Midwest	69.8	2.3	20.9	41.9	20.9
West	42.5	20.0	35.0	37.5	50.0
All Sections	**40.4**	**17.8**	**36.6**	**27.3**	**54.4**

Average Drop in Gallons

	275-gal. Tanks	550-gal. Tanks
New England	172.9	347.8
Mid-Atlantic	176.6	368.5
South	171.9	342.4
Midwest	180.9	403.2
West	170.8	358.0
All Sections	**174.6**	**364 .0**

Average Age of Trucks

	Year of Oldest	Year of Newest
New England	1976.8	1986.1
Mid-Atlantic	1973.1	1983.6
South	1975.4	1984.4
Midwest	1978.1	1986.3
West	1971.2	1981.8
All Sections	**1974.9**	**1984.4**

Buying This Year (%)

	New Truck	New Tank
New England	48.6	18.9
Mid-Atlantic	27.9	4.7
South	18.6	16.3
Midwest	20.9	14.0
West	34.9	16.3
All Sections	**30.2**	**14**

Sources of Business Income (% of total business income)

	FUEL OIL				GASOLINE			
	—Retail—		—Bulk—		—Retail—		—Bulk—	
	Primary	Secondary	Primary	Secondary	Primary	Secondary	Primary	Secondary
New England	97.7	*	9.3	7.0	16.3	14.0	11.6	7.0
Mid-Atlantic	97.7	*	11.6	18.6	20.9	9.3	11.6	9.3
South	62.8	14.6	30.2	20.9	48.8	20.9	44.2	11.6
Midwest	69.8	33.3	44.2	32.6	55.1	16.5	44.2	30.2
West	44.2	25.6	41.9	18.6	48.8	11.6	55.8	9.3
All Sections	**74.4**	**14.7**	**27.4**	**19.5**	**38.0**	**14.5**	**33.5**	**13.5**

** - Less than .1%*

The Gas Threat

	% Losing Customers	Avg. No. Lost
New England	22.5	5.6
Mid-Atlantic	62.8	16.8
South	33.3	25.3
Midwest	53.3	13.5
West	100.0	14.1
All Sections	**54.4**	**15.1**

The Service Department

	% Have Service Depart.	Avg. No. of Calls /Year	Value of Parts Inventory	% Service Depart. Profitable	No. of Techs.
New England	100.0	3,182	35,870	41.9	4.4
Mid-Atlantic	97.7	1,329	55,109	61.9	4.7
South	27.9	457	15,857	41.7	2.0
Midwest	30.2	333	12,438	30.8	1.8
West	34.9	1,118	19,571	53.3	2.4
All Sections	**58.1**	**1,284**	**27,769**	**45.9**	**3.1**

Dealers Using Additives (in %)

	Use Additives	Blend at Bulk Plant
New England	51.2	22.7
Mid-Atlantic	44.2	21.1
South	39.5	41.2
Midwest	62.8	44.4
West	39.5	23.5
All Sections	**47.4**	**30.6**

	Blend on Trucks	Blend in Cust.'s Tanks
New England	45.5	45.5
Mid-Atlantic	42.2	52.6
South	47.1	29.4
Midwest	48.1	44.4
West	47.1	41.2
All Sections	**46.0**	**42.6**

Annual Heating Oil Sales by Types of Customers (% of total customers served)

	Private Homes	Apts.	Educ.	Hospitals	Commercial	Industrial
New England	81.0	5.4	1.9	0.4	7.1	0.5
Mid-Atlantic	83.9	5.4	1.0	0.5	5.1	1.3
South	79.9	0.9	2.0	1.1	14.3	1.8
Midwest	74.1	1.0	1.8	0.8	17.5	5.3
West	81.5	1.7	1.7	0.4	10.4	5.2
All Sections	**80.1**	**2.9**	**1.7**	**0.6**	**10.9**	**2.8**

Fuel Oil Dealers Who Sell, Install and/or Service Selected HVAC Equipment (%)

RESIDENTIAL

	Furnaces	Warm Air Systems
New England	100.0	97.7
Mid-Atlantic	97.7	88.4
South	80.0	50.0
Midwest	33.3	20.0
West	100.0	66.7
All Sections	82.2	64.6

	Central Air Conditioning	Heat Pump
New England	39.5	9.3
Mid-Atlantic	58.1	11.6
South	40.0	10.0
Midwest	13.3	16.7
West	20.0	20.0
All Sections	34.2	13.5

COMMERCIAL

	Furnaces	Warm Air Systems
New England	62.8	51.2
Mid-Atlantic	46.5	32.6
South	40.0	20.0
Midwest	I.D.	I.D.
West	60.0	33.3
All Sections	52.3	34.3

** - Less than .1%*
I.D. - Insufficient Data

	Central Air Conditioning	Heat Pump
New England	30.2	7
Mid-Atlantic	14.0	11.6
South	30.0	*
Midwest	I.D.	I.D.
West	6.7	13.3
ll Sections	20.2	8.0

- Less than .1%
D. - Insufficient Data

Average Number of Units Installed in Past 12 Months

	RESIDENTIAL			COMMERCIAL		
	Burners	**Boilers**	**F'naces**	**Burners**	**Boilers**	**F'naces**
New England	30.9	24.3	16.9	0.9	0.8	0.7
Mid-Atlantic	33.9	25.7	41.2	7.0	4.0	7.6
South	4.1	2.3	6.3	0.6	0.6	0.2
Midwest	9.3	1.1	26.9	*	*	*
West	73.3	4.5	24.1	2.0	0.1	1.5
All Sections	**30.3**	**11.6**	**23.1**	**2.1**	**1.1**	**0 2**

** - Less than 0.1*
I.D. - Insufficient Data

Average Storage Capacity in Gals.

	No. 2 Oil	Diesel	Gasoline	Lpg	Kerosene
New England	215,143	25,900	22,400	11,510	4,400
Mid-Atlantic	262,208	9,571	53,916	15,500	23,600
South	36,257	24,750	63,172	*	22,684
Midwest	105,579	59,357	44,691	21,375	28,464
West	89,030	84,900	93,208	29,300	*
All Sections	**141,643**	**40,896**	**55,477**	**19,421**	**19,787**

I.D. - Insufficient Data

Retail Gasoline Outlets and Volume

	Avg. No.	Less Than 50,000*	50,000 - 100,000*	100,000/mo. +*
New England	3.8	57.1	14.3	28.6
Mid-Atlantic	5.8	75.0	12.5	12.5
South	2.6	65.4	8.9	7.6
Midwest	1.4	77.8	14.2	14.2
West	5.7	61.1	33.3	5.6
All Sections	**3.9**	**66.3**	**16.6**	**13.7**

** percent reporting such volume in gallons per month.*

BEST AVAILABLE COPY

Top 10 Importers of Crude and Product—1989

Company	Headquarters	Volume (000-b/d)	% of U.S. Total
	CRUDE OIL AND PRODUCT		
Chevron	San Francisco	724	9.07%
Star	Houston	584	7.32
Exxon	New York	524	6.57
Shell	Houston	394	4.94
Amoco	Chicago	386	4.84
Amerada Hess	New York	321	4.02
Coastal	Houston	306	3.84
Sun	Philadelphia	299	3.75
Mobil	New York	294	3.68
Citgo	Tulsa	269	3.37
Total Top 10		4.101	51.40
Total U.S.		7.979	
	CRUDE OIL ONLY		
Chevron	San Francisco	675	11.62
Star	Houston	569	9.80
Exxon	New York	404	6.96
Amoco	Chicago	373	6.42
Shell	Houston	368	6.34
Mobil	New York	272	4.68
BP America	Cleveland	261	4.49
U.S. Steel	Pittsburgh	257	4.42
Sun	Philadelphia	243	4.18
Koch	Wichita, Kan.	221	3.81
Total Top 10		3.643	62.72
Total U.S.		5.808	
	FINISHED MOTOR GASOLINE		
Getty	Jericho, N.Y.	37	10.19
Amerada Hess	New York	31	8.54
C. Itoh (Amer.)	Houston	26	7.16
Citgo	Tulsa	25	6.89
Bear Stearns	New York	23	6.34
Coastal	Houston	19	5.23
Mobil	New York	17	4.68
Cumberland Farms	Canton, Mass.	16	4.41
Texaco	White Plains, N.Y.	16	4.41
Northville	Melville, N.Y.	15	4.13
Total Top 10		225	61.98
Total U.S.		363	

Company	Headquarters	Volume (000-b/d)	% of U.S. Total
	DISTILLATES		
Amerada Hess	New York	67	22.19
Global Petro.	Waltham, Mass.	26	8.61
Cargill	Minneapolis	22	7.28
G.E. Warren	Vero Beach, Fla.	20	6.62
Northville	Melville, N.Y.	19	6.29
Astroline	Reading, Mass.	17	5.63
Cumberland Farms	Canton, Mass.	11	3.64
Scanoil	New York	9	2.98
Vitol S.A.	Stamford, Conn.	8	2.65
Coastal	Houston	8	2.65
Total Top 10		207	68.54
Total U.S.		302	
	RESIDUAL		
Amerada Hess	New York	121	19.84
Coastal	Houston	73	11.97
Phibro	Greenwich, Conn.	52	8.52
Petro-Diamond	Irvine, Calif.	31	5.08
Clarendon Mktg.	Stamford, Conn.	28	4.59
Chevron	San Francisco	28	4.59
Charter	Jacksonville, Fla.	25	4.10
Clark Trading	Clayton, Mo.	24	3.93
Vitol S.A.	Stamford, Conn.	23	3.77
BP America	Cleveland	23	3.77
Total Top 10		428	70.16
Total U.S.		610	
	JET FUELS		
Amerada Hess	New York	24	23.53
BP America	Cleveland	21	20.59
Citgo	Tulsa	13	12.75
United Airlines	Chicago	9	8.82
Cumberland Farms	Canton, Mass.	7	6.86
PanAm World A'ways	New York	7	6.86
Texaco	White Plains, N.Y.	6	5.88
Mobil	New York	3	2.94
Western Petro.	Eden Prairie, Minn.	3	2.94
Amer. Airlines	Dallas/Ft. Worth	2	1.96
Total Top 10		95	93.14
Total U.S.		102	

Source: Energy Information Administration, Petroleum Supply Monthly. Figures are preliminary.

U.S. Dependency on Crude and Product Imports

(Add 000 b/d)

	Net imports						Net imports as % of U.S. Petroleum products supplied		
Year	Total from All countries	From Arab OPEC Members	% from Arab OPEC	From all OPEC Members	% from All OPEC	U.S. Petroleum Products Supplied	Total from All countries	From Arab OPEC Members	From all OPEC Members
1989 Average	7,072	2,085	29.7%	4,164	58.9%	17,760	39.8%	11.7%	23.4%
1st Qtr.	6,946	2,034	29.3	3,866	55.7	17,623	39.4	11.5	21.9
2nd Qtr.	7,007	2,047	29.2	3,994	57.0	16,809	41.7	12.2	23.8
3rd Qtr.	7,452	2,313	31.0	4,367	58.6	16,785	44.4	13.8	26.0
4th Qtr.	7,072	2,085	29.5	4,164	58.9	17,760	39.8	11.7	23.4
1988 Average	6,353	1,826	28.7	3,421	53.8	17,170	37.0	10.6	19.9
1st Qtr.	6,006	1,668	27.8	3,155	52.5	17,443	34.4	9.6	18.1
2nd Qtr.	6,240	1,640	26.3	3,355	53.8	16,533	37.7	9.9	20.3
3rd Qtr.	6,353	1,975	31.1	3,545	55.8	16,917	37.6	11.7	21.0
4th Qtr.	6,807	2,017	29.6	3,625	53.3	17,782	38.3	11.3	20.4
1987 Average	5,914	1,272	21.5	3,053	51.6	16,665	35.5	7.6	18.3
1986 Average	5,439	1,160	21.3	2,828	52.0	16,281	33.4	7.1	17.4
1985 Average	4,286	470	11.0	1,821	42.5	15,726	27.3	3.0	11.6
1984 Average	4,715	817	17.3	2,037	43.2	15,726	30.0	5.2	13.0
1983 Average	4,312	630	14.6	1,843	42.7	15,231	28.3	4.1	12.1
1982 Average	4,298	852	19.8	2,136	49.7	15,296	28.1	5.6	14.0
1981 Average	5,401	1,844	34.1	3,315	61.4	16,058	33.6	11.5	20.6
1980 Average	6,385	2,549	39.9	4,293	67.2	17,056	37.3	14.9	25.2
1979 Average	7,985	3,054	38.2	5,633	70.5	18,513	43.1	16.5	30.4
1978 Average	8,002	2,962	37.0	5,747	71.8	18,847	42.5	15.7	30.5
1977 Average	8,565	3,184	37.2	6,190	72.3	18,431	46.5	17.3	33.6
1976 Average	7,090	2,423	34.2	5,063	71.4	17,461	40.6	13.9	29.0
1975 Average	5,846	1,382	23.6	3,599	61.2	16,322	35.8	8.5	22.0
1974 Average	5,892	752	12.8	3,277	55.6	16,653	35.4	4.5	19.7
1973 Average	6,025	914	15.2	2,991	49.6	17,038	34.8	5.3	17.3

Source: Energy Information Administration, Monthly Energy Review, December 1989, published May 1990.

Role of Imports in Domestic Demand

(Add 000 bbl.)

	Total Imports			Domestic Demand for Refined Products			
	Total(a)	b/d Avg.	% Change	Total	b/d Avg.	% Change	Imports as % of U.S. Demand
1989(b)	2,912,335	7,979	7.8%	6,294,060	17,244	—	46.3%
1988	2,701,730	7,402	10.8	6,308,295	17,283	3.7	42.8
1987	2,437,470	6,678	7.3	6,082,725	16,665	2.3	40.1
1986	2,271,760	6,224	22.8	5,945,565	16,281	3.5	38.2
1985	1,849,455	5,067	(6.8)	5,739,990	15,726	—	32.2
1984	1,984,505	5,437	7.6	5,739,990	15,726	3.2	34.6
1983	1,843,615	5,051	(1.2)	5,559,315	15,231	(.04)	33.2
1982	1,866,245	5,113	(14.7)	5,583,040	15,296	(4.7)	33.4
1981	2,188,540	5,996	(13.2)	5,861,170	16,058	(5.9)	37.3
1980	2,521,785	6,909	(18.3)	6,225,440	17,056	(7.9)	40.5
1979	3,086,440	8,456	1.1	6,757,245	18,513	(1.8)	45.7
1977 (peak year)	3,214,555	8,807	20.1	6,727,315	18,431	5.3	47.8
1975	2,210,335	6,056	(0.9)	5,957,515	16,322	(2.0)	37.1
1970	1,248,062	3,419	8.0	5,364,473	14,697	4.0	23.3
1960	664,111	1,815	2.0	3,585,820	9,797	2.8	18.5

(a) Crude oil and products but not crude from Strategic Petroleum Reserve; (b) Preliminary. Special note: Data for 1977 through 1985 are restated to reflect EIA information rather than other sources used in 1984.

Source: American Petroleum Institute Basic Petroleum Data Book for 1950 through 1976; Energy Information Administration, Monthly Energy Review for 1977 through 1989.

Petroleum Products Imported

(Thousands of b/d)

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1989												
Total Motor Gasoline	380	490	429	437	403	421	438	410	406	423	460	374
Leaded	4	5	3	12	5	6	1	0	0	0	0	0
Unleaded	385	387	378	359	352	385	397	357	312	364	390	299
Blending Components	30	98	48	66	47	30	40	53	94	57	69	75
Jet Fuel	85	120	100	127	120	112	113	84	95	70	91	111
Distillate Fuel Oil	331	322	439	299	290	233	335	254	243	254	298	323
Residual Fuel Oil	877	863	703	681	526	515	546	478	421	575	538	612
Other Petroleum Products(a)	846	853	729	745	693	674	691	733	750	743	767	612
1988												
Total Motor Gasoline	357	419	361	397	502	493	534	530	452	411	514	407
Leaded	7	14	10	9	37	18	8	7	4	2	13	11
Unleaded	317	351	308	340	378	406	453	458	399	361	438	330
Blending Components	33	54	43	48	87	69	73	65	49	48	63	66
Jet Fuel	82	67	97	86	104	74	81	103	61	138	79	161
Distillate Fuel Oil	355	330	243	208	228	209	205	270	292	324	308	399
Residual Fuel Oil	737	792	610	465	423	349	436	515	566	522	765	997
Other Petroleum Products(a)	750	694	628	768	726	704	731	717	666	728	862	676
1987												
Total Motor Gasoline	474	372	419	404	386	412	515	494	467	454	548	385
Leaded	37	16	35	12	22	37	69	22	51	26	75	27
Unleaded	356	293	329	362	332	348	383	373	370	330	409	292
Blending Components	81	63	55	30	32	27	63	98	46	97	64	65
Jet Fuel	43	67	83	65	67	66	73	54	83	83	55	68
Distillate Fuel Oil	222	253	297	192	203	265	381	222	222	237	187	378
Residual Fuel Oil	701	668	559	476	505	481	721	512	526	414	568	650
Other Petroleum Products(a)	529	759	657	643	572	738	604	661	769	739	697	714

(a) Includes kerosine, unfinished oils, motor gasoline blending components, liquefied petroleum gas and other oils.

Source: Energy Information Administration, Weekly Status Reports.

Crude and Product Imports by PAD (a)...

(Add 000 b/d)

PAD 1*

Total crude imports: 1,195,000 b/d.
Total product imports: 1,492,000 b/d.
Major Sources: Venezuela, Virgin Islands, Nigeria, United Kingdom.
Leading importers: Amerada Hess, Texaco, Sun, Chevron.

	1989	1988	%chng '89 vs.'88	1987	1986	1985
Finished gasoline	334	351	(4.8)	324	251	298
Blending components	44	50	(16)	40	43	48
Unfinished oils	122	122	-	106	82	64
Liquefied Petro. gases	27	37	(27)	38	36	24
Distillates	284	270	5	221	216	177
Residual	563	556	(2)	516	593	449
Other products	115	120	(4)	90	92	99
Total products	1,492	1,506	1	1,335	1,312	1,159
Crude oil	1,195	1,164	3	1,109	1,056	977
Total crude oil and products	2,687	2,670	1	2,444	2,368	2,137

*PAD 1 includes Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, West Virginia, North and South Carolina, Georgia and Florida.

PAD 2*

Total crude imports: 1,048,000 b/d
Total product imports: 117,000 b/d
Major Sources: Canada, Nigeria, Saudi Arabia, Mexico
Major importers: Koch, Ashland, Shell, Apex.

	1989	1988	%chng '89 vs.'88	1987	1986	1985
Finished gasoline	5	4	3	4	5	12
Blending components	0	1	-	(s)	1	(s)
Unfinished oils	0	3	-	(s)	0	8
Liquefied Petro. gases	93	89	4	76	982	119
Distillates	8	6	33	8	8	7
Residual	4	4	-	6	4	2
Other products	7	21	(67)	8	7	8
Total products	117	128	(9)	102	107	157
Crude oil	1,048	923	14	860	781	590
Total crude and products	1,165	1,051	11	962	888	746

*PAD 2 includes North and South Dakota, Nebraska, Kansas, Oklahoma, Minnesota, Iowa, Missouri, Wisconsin, Illinois, Michigan, Indiana, Ohio, Kentucky and Tennessee;(s) means less than 500 b/d.

PAD 3*

Total crude imports: 3,230,000 b/d.
Total product imports: 471,000 b/d.
Major Sources: Saudi Arabia, Mexico, Venezuela, Nigeria.
Major importers: Chevron, Texaco, USX (Marathon), Arco.

	1989	1988	%chng '89 vs.'88	1987	1986	1985
Finished gasoline	5	9	(4)	15	7	20
Blending components	13	7	86	7	9	6
Unfinished oils	217	224	3	169	152	243
Liquefied Petro. gases	45	61	26	53	98	18
Distillates	3	2	50	6	1	2
Residual	16	22	(27)	25	33	45
Other products	172	91	89	96	94	74
Total products	471	416	13	372	393	409
Crude oil	3,230	2,734	18	2,417	2,037	1,419
Total crude and products	3,701	3,148	18	2,789	2,430	1,827

*PAD 3 includes Alabama, Arkansas, Louisiana, Texas and New Mexico.

(a) The summaries at the top of each PAD are total figures for 1989, i.e. imports minus exports; the rest of the figures are total imports.

(Add 000 b/d)

PAD 4*

Total crude imports: 67,000 b/d.
Total product imports: 10,000 b/d.
Major sources: Canada.
Major importers: Du Pont (Conoco), Cenex, Exxon, Flying J.

	1989	1988	%chng '89 vs.'88	1987	1986	1985
Finished gasoline	1	2	(50)	2	2	2
Blending components	0	0	-	0	(s)	0
Unfinished oils	0	0	-	0	0	0
Liquefied Petro. gases	7	12	(42)	12	12	15
Distillates	2	3	(33)	2	2	4
Residual	(s)	(s)	-	(s)	(s)	(s)
Other products	(s)	1	-	2	5	4
Total products	10	18	44	18	21	25
Total crude	67	63	6	64	54	39
Total crude and products	77	81	(12)	82	75	64

*PAD 4 includes Montana, Idaho, Wyoming, Utah and Colorado; (s) means less than 500 b/d.

PAD 5*

Total crude imports: 266,000 b/d.
Total product imports: 89,000 b/d.
Major sources: Indonesia, Canada, People's Republic of China.
Major importers: Chevron, Shell, Pacific, Unocal.

	1989	1988	%chng '89 vs.'88	1987	1986	1985
Finished gasoline	18	21	(14)	21	32	48
Blending components	1	1	-	14	15	12
Unfinished oils	7	2	300	4	5	2
Liquefied Petro. gases	6	10	(40)	11	13	10
Distillates	5	3	66	3	8	10
Residual	24	12	100	7	20	13
Other products	28	19	47	14	23	19
Total products	89	68	31	74	117	116
Total crude	266	175	52	189	182	177
Total crude and products	355	143	46	264	299	293

*PAD 5 includes Arizona, Nevada, California, Oregon, Washington, Alaska and Hawaii.

ALL PADS - U.S. Totals.

Total crude imports: 5,808,000 b/d.
Total product imports: 2,191,000 b/d.
Major sources: see related PAD tables in this section.
Major suppliers: see related PAD tables in this section.

	1989	1988	%chng '89 vs.'88	1987	1986	1985
Finished gasoline	363	386	(6)	366	296	381
Blending components	59	58	2	61	68	67
Unfinished oils	346	351	1	280	239	318
Liquefied Petro. gases	179	210	15	190	241	187
Distillates	302	283	7	240	235	200
Residual	610	595	3	553	650	510
Other products	332	251	32	210	221	204
Total products	2,191	2,134	3	1,900	1,950	1,866
Total crude	5,808	5,059	15	4,639	4,111	3,201
Total crude and products	7,999	7,193	11	6,539	6,061	5,067

(a) The summaries at the top of each PAD are total figures for 1989, i.e. imports minus exports; the rest of the figures are total imports.
Source: Energy Information Administration, Petroleum Supply Monthly, Table 17, December 1989, published March 1990.

World Crude Oil Production by Area

(Millions of bbl.)

Year (a)	United States	Canada	Latin America	Western Europe	Middle East	Africa	Asia-Pacific	Total Free World	Communist Nations	Total World
1988	2,979	587	2,303	1,387	5,236	1,828	1,148	15,471	5,519	20,990
1986	3,168	537	2,190	1,395	4,639	1,820	1,177	14,926	5,403	20,329
1984	3,250	516	2,316	1,332	4,128	1,714	1,165	14,421	5,333	19,753
1982	3,157	464	2,256	1,078	4,622	1,630	956	14,162	5,184	19,347
1980	3,146	521	2,036	891	6,735	2,226	1,000	16,556	5,205	21,761

(a) As of Dec. 31 of each year.
Source: American Petroleum Institute, Basic Data Book, January 1990

World Crude Oil Reserves by Area

(Millions of bbl.)

Year (a)	United States	Canada	Latin America	Western Europe	Middle East	Africa	Asia-Pacific	Total Free World	Communist Nations	Total World
1988	26,825	6,786	121,951	18,557	571,519	56,964	21,367	823,968	83,800	907,768
1986	26,889	6,850	88,755	21,938	401,788	55,194	19,024	620,529	79,250	699,779
1984	28,446	7,075	83,316	24,426	390,381	55,540	18,530	615,713	84,100	699,813
1982	27,858	7,020	78,482	22,924	369,286	57,822	19,756	583,147	85,115	668,262
1980	29,805	6,400	69,490	23,085	362,071	55,148	19,631	565,630	83,300	651,930

(a) As of Dec. 31 of each year.
Source: American Petroleum Institute, Basic Data Book, January 1990

World Crude Oil Refining Capacity by Area

(Hundreds of b/d)

Year (a)	United States	Other Western Hemisphere	Total Western Hemisphere	Middle East	Africa	Asia-Pacific	Europe	Total Free World	Sino Soviet Bloc	Total World
1988	15,557	8,839	24,396	4,335	2,787	10,065	13,859	55,441	17,798	73,239
1986	15,566	8,677	24,242	3,863	2,524	10,400	13,929	54,958	17,610	72,568
1984	15,659	9,458	24,858	4,053	2,447	10,394	15,655	57,664	17,500	75,164
1982	16,859	9,878	26,733	3,685	1,882	10,902	17,245	60,328	16,873	77,201
1980	18,620	10,717	29,377	3,730	1,698	10,555	20,205	65,525	16,036	81,561

(a) As of Dec. 31 of each year.
Source: American Petroleum Institute, Basic Data Book, January 1990

World Natural Gas Production by Area

(Billions of cubic feet)

Year (a)	United States	Canada	Latin America	Western Europe	Middle East	Africa	Asia-Pacific	Total Free World	Communist Nations	Total World
1988	–	–	–	–	–	–	–	–	–	–
1987	17,150	3,473	3,355	7,044	2,624	2,026	3,798	39,469	28,743	68,211
1986	16,791	3,168	3,414	6,520	1,823	1,662	3,321	36,698	27,088	63,786
1984	18,230	2,652	3,452	6,795	1,533	1,629	2,530	36,822	23,272	60,094
1982	18,520	2,546	3,072	6,142	1,800	1,170	2,177	35,425	20,258	55,683
1980	20,180	2,668	3,296	6,669	1,221	885	2,558	37,678	21,070	58,748

(a) As of Dec. 31 of each year.
Source: American Petroleum Institute, Basic Data Book, January 1990

Crude Oil Reserves in 20 Leading Nations

	(Add 000 bbl.)		% of Free World		% of Total World	
Nation	**1/1/89**	**1/1/88**	**1989**	**1988**	**1989**	**1988**
Saudi Arabia	169,970,000	166,980,000	20.6%	20.6%	18.7%	18.8%
Iraq	100,000,000	100,000,000	12.1	12.3	11.0	11.2
Iran	92,850,000	92,850,000	11.3	11.4	10.2	10.4
Abu Dhabi	92,205,000	92,205,000	11.2	11.4	10.2	10.4
Kuwait	91,920,000	91,920,000	11.2	11.3	10.1	10.3
U.S.S.R.	58,500,000	59,000,000	7.1	7.3	6.4	6.6
Venezuela	58,083,900	56,300,000	7.0	6.9	6.4	6.3
Mexico	54,110,000	48,610,000	6.6	6.0	6.0	5.5
United States	26,825,000	27,256,000	3.3	3.4	3.0	3.1
China	23,500,000	18,400,000	2.9	2.3	2.6	2.1
Libya	22,000,000	21,000,000	2.7	2.6	2.4	2.4
Nigeria	16,000,000	15,980,000	1.9	2.0	1.8	1.8
Norway	10,435,000	14,800,000	1.3	1.8	1.1	1.7
Algeria	8,400,000	8,500,000	1.0	1.4	0.9	1.0
Indonesia	8,250,000	8,400,000	1.0	1.4	0.9	0.9
Canada	6,785,514	6,825,000	0.8	0.8	0.7	0.8
India	6,354,200	4,250,000	0.8	0.5	0.7	0.5
United Kingdom	5,175,000	5,200,000	0.5	0.6	0.6	0.6
Egypt	4,300,000	4,300,000	0.5	0.5	0.5	0.5
Oman	4,071,160	4,012,000	0.5	0.5	0.4	0.5
Total Free World	**823,967,751**	**810,144,510**	—	—	—	—
Total World	**907,767,751**	**889,340,000**	—	—	—	—

Source: American Petroleum Institute, Basic Data Book, January 1990; percentage relationships by *NPN*

Crude Oil Production in 20 Leading Nations

	Add 000 bbl. 1988		Add 000 bbl. 1989		% of Free World		% of Total World	
Nation	**Total**	**b/d**	**Total**	**b/d**	**1988**	**1987**	**1988**	**1987**
U.S.S.R.	4,356,864	11,937	4,354,450	11,930	28.2%	29.3%	20.8%	21.4%
United States	2,979,123	8,162	3,168,852	8,680	19.3	20.5	14.2	15.0
Saudi Arabia	1,887,580	5,171	1,484,455	4,067	12.2	9.9	9.0	7.2
China	1,003,572	2,750	953,745	2,613	6.5	6.4	4.8	4.7
Mexico	953,796	2,613	927,465	2,541	6.2	6.2	4.5	4.6
Iraq	951,234	2,606	757,740	2,076	6.1	5.1	4.5	3.7
Iran	836,310	2,291	894,616	2,451	5.4	6.0	4.0	4.4
United Kingdom	789,096	2,162	853,370	2,338	5.1	5.7	3.8	4.2
Venezuela	608,292	1,667	573,780	1,572	3.9	3.9	2.8	2.8
Canada	587,430	1,609	569,400	1,560	3.8	3.8	2.8	2.8
United Arab Emirates	551,562	1,511	530,710	1,454	3.6	3.6	2.6	2.6
Nigeria	504,714	1,383	469,390	1,286	3.3	3.2	2.4	2.4
Kuwait	495,330	1,357	344,710	1,034	3.2	2.5	2.4	1.8
Indonesia	424,194	1,162	434,715	1,191	2.7	2.9	2.0	2.1
Norway	404,430	1,108	344,195	943	2.6	2.3	1.9	1.7
Libya	385,764	1,057	*	*	3.6	1.8	*	*
Egypt	310,368	850	277,040	759	1.8	1.9	1.5	1.7
India	232,410	637	222,285	609	1.5	1.5	1.5	1.1
Algeria	232,040	636	231,775	635	1.5	1.6	1.1	1.1
Oman	221,430	607	203,305	557	1.4	1.4	1.1	1.0
Total Free World	**15,471,435**	**42,387**	**14,858,413**	**40,708**	—	—	—	—
Total World	**20,990,349**	**57,508**	**20,345,823**	**55,696**	—	—	—	—

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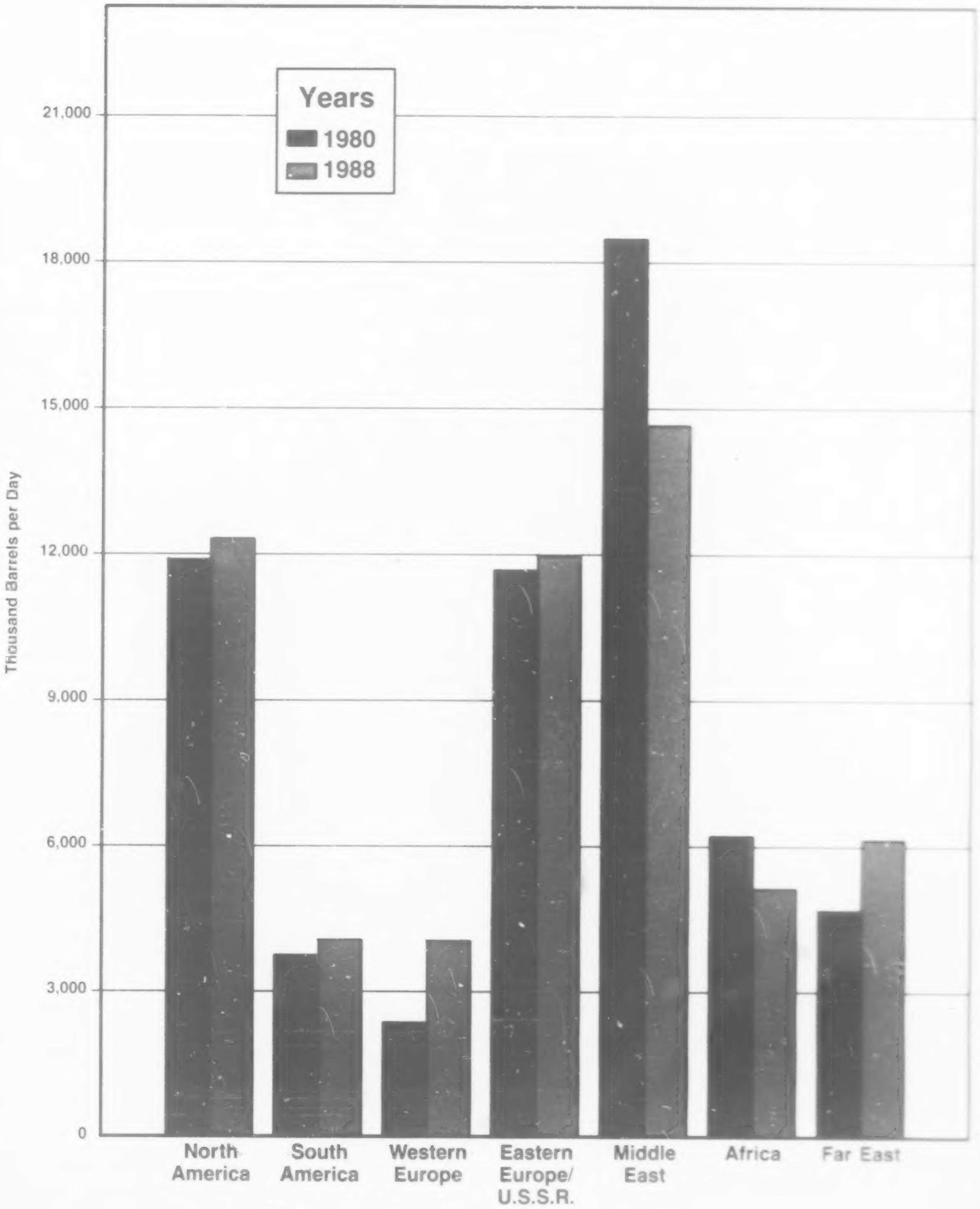
*Not listed in top 20 of 1987. Libya was ranked 15th in 1986.

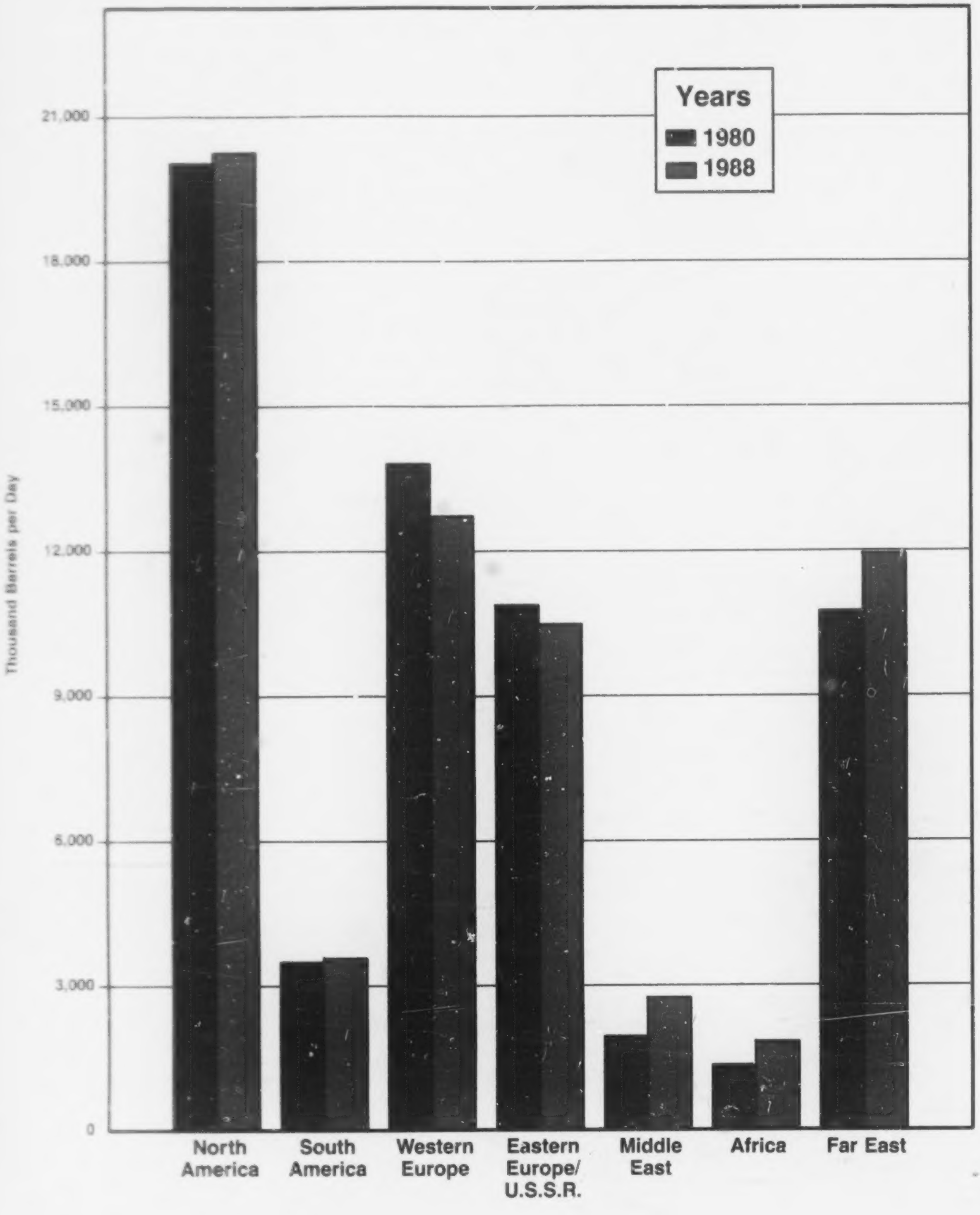
Source: American Petroleum Institute, Basic Data Book, January 1990; percentage relationship by *NPN*

World Crude Oil Production, 1980 & 1988



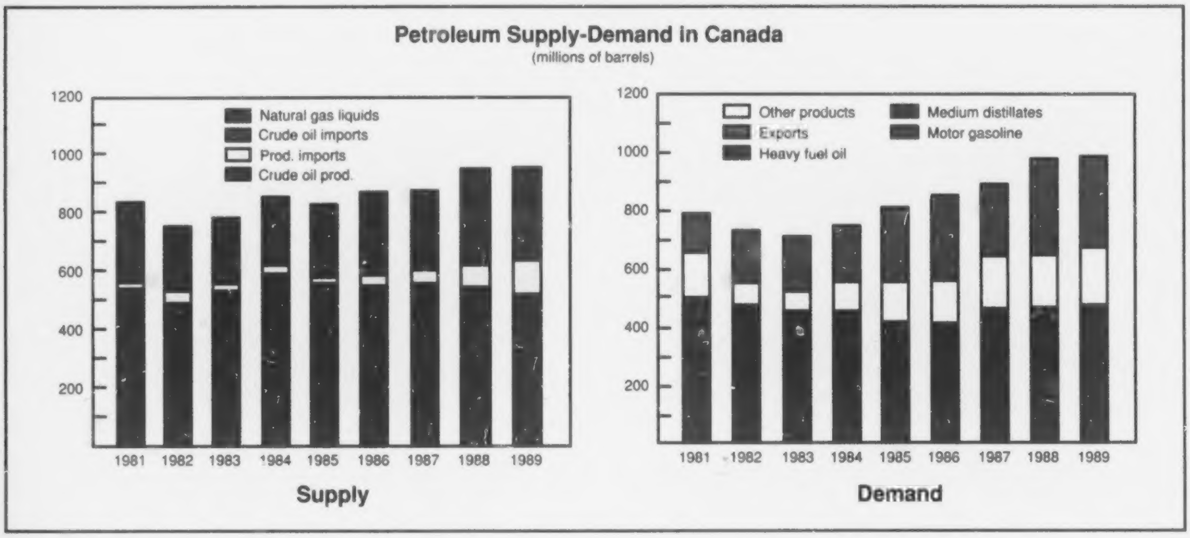
Source: American Petroleum Institute, Petroleum Data Book, Vol. X, No. 1, published in January 1990

World Petroleum Consumption, 1980 & 1988



Source: American Petroleum Institute, Petroleum Data Book, Vol. X, No. 1, published in January 1990.

Canadian Oil Market Stable in 1989



Having reached peak levels for the 1980s in 1988 in both supply and consumption, Canada's petroleum industry settled back slightly last year. It was still a strong performance; overall, the second best of the decade.

On the supply side, crude oil and NGL production and crude and product imports amounted to 923-million bbl. (147-million cubic meters) in 1989, down a smidgeon from the 1988 total of 926-million bbl. Like the United States, Canada is experiencing a growth in imports, with crude and products increasing 5.5% to a record 232-million bbl. Meanwhile, crude production fell 3.5% to 570-million bbl. in 1989. Canada's petroleum exports dropped 7% to 355-million bbl., but the country remains a net exporter by a comfortable margin.

There was moderate change from 1988 to 1989 in Canadian refined product sales (see table below). Marketers of diesel, light and heavy fuels and lubes and greases had the biggest increases in product sales, while gasoline, aviation turbine and kerosene also increased slightly.

Refined Product Sales in 1989

(Cubic Meters)*

	Aviation Gas	Motor Gas	Aviation Turbine	Kerosene	Diesel	Light Fuel	Heavy Fuel	Lubes & Greases
Newfoundland	4,313	606,650	330,137	34,721	492,843	304,874	797,933	13,040
Prince Edward Island	2,100	182,214	5,007	12,878	71,833	164,182	41,909	2,151
Nova Scotia	1,662	1,135,546	192,971	59,072	642,974	902,189	1,250,760	22,781
New Brunswick	2,778	939,148	35,532	23,895	511,796	455,291	2,301,061	23,479
Quebec	20,643	7,400,630	1,040,889	185,043	3,193,968	2,338,822	2,771,955	157,793
Ontario	38,866	12,970,701	1,603,680	147,921	4,479,281	2,007,331	1,549,905	436,675
Manitoba	17,728	1,400,298	178,584	54,570	865,157	56,944	61,485	38,536
Saskatchewan	11,105	1,723,073	92,431	69,870	1,220,808	56,230	38,724	39,080
Alberta	14,569	4,614,309	688,210	31,208	2,809,834	55,106	37,822	105,505
British Columbia	36,385	3,724,983	941,923	81,448	2,642,146	445,194	1,021,000	107,020
Yukon	4,365	54,690	4,958	8,005	75,640	28,453	0	1,038
Northwest Territories	7,866	38,935	78,252	53,997	155,276	70,067	260	1,687
Total 1989	**162,380**	**34,791,177**	**5,192,574**	**762,628**	**17,161,556**	**6,884,683**	**9,872,814**	**948,765**
Total revised 1988	**166,026**	**34,148,678**	**5,068,062**	**744,569**	**16,680,369**	**6,661,215**	**8,125,323**	**928,773**

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*Cubic meters × 6.2886 = barrels
Source: Statistics Canada

Canadian Oil Companies:

			BRANDED SERVICE STATIONS						
Company	Total branded retail outlets	Number of Provinces where marketed	Supplied directly	Supplied through jobbers & commission agents	Lessee/Dealer operated	Salary operated	Commission operated	Full-serve only	Self-serve only
C Corp. Inc.	263	3	75	—	—	—	75	69	—
C. Corp (Ontario) Inc.	86	2	—	—	9	3	40	46	4
Canadian Tire Petroleum Div.	177	7	177	—	—	169	9	7	165
Chevron Canada Ltd.	277	1	183	94	165	—	112	118	109
Esso Petroleum Canada (a)	N/A	—	—	—	—	—	—	—	—
Fas Gas Oil Ltd.	136	3	136	—	—	—	136	79	57
Federated Co-operatives Ltd.*	365	4	365	—	**	240	25	305	60
Husky Oil Marketing Co.	509	5							
Les Petroles Calex Ltée.	50	2							
Mohawk Oil Co. Ltd.	263	6	263		114	74	75	146	44
Petro-Canada Products	3,381	12	—	—	2,578	167	636	2,381	916
Shell Canada Ltd. (e)									
Sunoco Inc. (b)									
Sunys Petroleum Inc.	233	2	233	0	74	—	159	208	25
Turbo Resources Ltd.	311	6	284	27	70	0	241	308	4
Ultramar Canada Inc.	1,382	6	1,382	—	1,382				

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* does not include 280 Tempo

** all Tempo are Independent resellers

Brand Names of Gasoline and Motor Oils

C. Corp. Inc.

Gasoline	Motor Oil
Top Valu	Top Valu
Winks Express	
Shell	
Sunoco	
Petro Canada	
Esso	
Ultramar	
Texaco	

Canadian Tire Petroleum

Gasoline	Motor Oil
Motomaster:	Nugolo
	Supreme
	Formula 2000

Chevron Canada Ltd.

Gasoline	Motor Oil
Chevron (r,ur)	Chevron Special
Chevron Supreme (up)	Chevron Supreme

Esso Petroleum Canada

Gasoline	Motor Oil
Esso (r)	HD
Esso 2000 (ur)	HDX
Esso Extra Unleaded (up)	Protec Extra
	Protec Ultra

Fas Gas Oil Ltd.

Gasoline	Motor Oil
	Hi-Performance

Federated Co-operatives Ltd.

Gasoline	Motor Oil
Sonic (r,ur,p)	Sonic Silver
Tempo (r,ur,p)	Sonic Gold

Husky Oil Marketing Co.

Gasoline	Motor Oil
Husky (r,ur,up,d)	Husky Heavy Duty
	Husky Heavy Duty Special
	Husky Stratolube
	Husky Stratoplus
	Husky Superlube
	Husky Super Duty

Mohawk Oil Co. Ltd.

Gasoline	Motor Oil
Mohawk (r,ur,up,d)	Mohawk Oil Canada Limited

Petro-Canada Products Inc.

Gasoline	Motor Oil
(r,ur,up,us,o)	Diesel Tonic
	XHD
	Maximum
	Super Plus
	Maximum Plus
	Maximum Supreme

Shell Canada Ltd.

Gasoline	Motor Oil
Shell (r,ur,up)	Shell X100
Beaver (r,ur,up)	Shell TLO
	Shell Extrema
	Rotella

Sunoco, Inc.

Gasoline	Motor Oil
Sunoco Regular (r)	CAM2
Sunoco ½&½ Leaded (r,up)	
Sunoco Premium Leaded (r,up)	
Sunoco Regular Unleaded (ur)	
Sunoco ½&½ Unleaded (ur,up)	
Sunoco Premium Unleaded (up)	
Pronto (r,ur,up)	

Sunys Petroleum Inc.

Gasoline	Motor Oil
Sunys (r,ur,p,diesel)	
Econobec (r,ur,p,diesel)	

Turbo Resources Ltd.

Gasoline	Motor Oil
Turbo	Flo-Rite
	Turbo
	Red Ram

Ultramar Canada Inc.

Gasoline	Motor Oil
Ultramar	Ultralube
Sterling	Ultralube Super
XL	Ultralube Super Plus
Gillies Guy	Champion
Champion	

KEY

Gasoline:

(r) Regular

(p) Premium

(ur) Unleaded

(up) Unleaded Premium

Motor Oils: Brand names are listed lowest-price grade first.

How Distribution is Organized

	BRANDED JOBBERS/COMMISSION AGENTS				BULK PLANTS				TERMINALS			
		SELLING ...				COMPANY OPERATED ...				COMPANY OPERATED ...		
Full-serve/ Self-serve	Total	Gasoline only	Fuel Oil only	Gasoline and Fuel Oil	Total	Salary operated	Commission operated	Jobber operated	Total	Salary operated	Commission operated	Jobber operated
6	200	200	—	—	0	—	—	—	0	—	—	—
2	0	—	—	—	0	—	—	—	0	—	—	—
5	—	—	—	9	—	—	—	—	—	—	—	—
50	—	277	—	—	36	—	36	0	2	2	0	0
—	—	—	—	—	—	—	—	—	—	—	—	—
—	N/A	—	—	—	N/A	—	—	—	N/A	—	—	—
—	25	25	—	—	290	285	5	0	1	1	—	—
73	—	—	—	75	—	—	—	—	—	—	—	—
84	314	—	—	314	396	11	385	0	30	23	7	0
1	159	159	0	0	0	—	—	—	0	—	—	—
0		0	0	57	36	0	33	3	0	0	0	0

Branded Retail Outlets in Canada

Company	Total branded retail outlets	Number of Provinces	Newfoundland	Nova Scotia	New Brunswick	Quebec	Ontario	Prince Edward Island	Manitoba	Saskatchewan	Alberta	British Columbia	Northwest Territories	Yukon
C. Corp. Inc.	263	3	—	—	—	137	67	—	—	—	59	—	—	—
C. Corp (Ontario) Inc.	86	2	—	—	—	1	85	—	—	—	—	—	—	—
Canadian Tire Petroleum Division	177	7	—	—	4	35	115	—	6	3	12	2	—	—
Chevron Canada Ltd.	277	1	—	—	—	—	—	—	—	—	—	277	—	—
Esso Petroleum Canada (a)	N/A													
Fas Gas Oil Ltd.	136	3	—	—	—	—	—	—	—	33	93	10	—	—
Federated Co-operatives Ltd.	365*	4	—	—	—	—	—	—	62	225	50	28	—	—
Husky Oil Marketing Co.	509	5	—	—	—	—	83	—	39	59	202	126	—	—
Les Petroles Calex Ltée	50	2	—	—	—	47	3	—	—	—	—	—	—	—
Mohawk Oil Co. Ltd.	263	6	—	—	—	3	—	—	29	37	97	94	—	3
Petro-Canada Products	3,381	12	28	104	85	673	1,221	12	221	262	385	390**		
Shell Canada Ltd.														
Sunoco Inc. (b)														
Sunys Petroleum Inc.	233	2	—	—	—	29	204	—	—	—	—	—	—	—
Turbo Resources Ltd.	311	6	—	—	—	—	1	—	22	72	167	48	2	—
Ultramar Canada Inc.	1,382	6	251	85	37	847	146	16	—	—	—	—	—	—

(a) Did not respond; data is from 1986.
(b) Did not respond; data is from 1987.
(c) Includes outlets in Yukon and Northwest Territories.
(d) Includes Beaver—not a subsidiary, but Shell Canada's wholly-owned 'Pribrand' retail outlets.
* does not include 280 Tempo
** includes Yukon & NW Territories

Gasoline Shares by Key Categories—1989

A new study of Canadian retail gasoline market shares was initiated in 1985 by MPSI Inc., Tulsa, Okla., a company specializing in computer software and information services in addition to market research and planning. Now, MPSI has released its updated 1989 study.

Data for both 1989 and 1988 are presented in the table below to provide an overview of trends within the various gasoline marketing segments. Also, average gallonage totals are shown in both liters and U.S. gallons. Refer to the companion market share study for the U.S. in the Retail section for a comparison between the two countries.

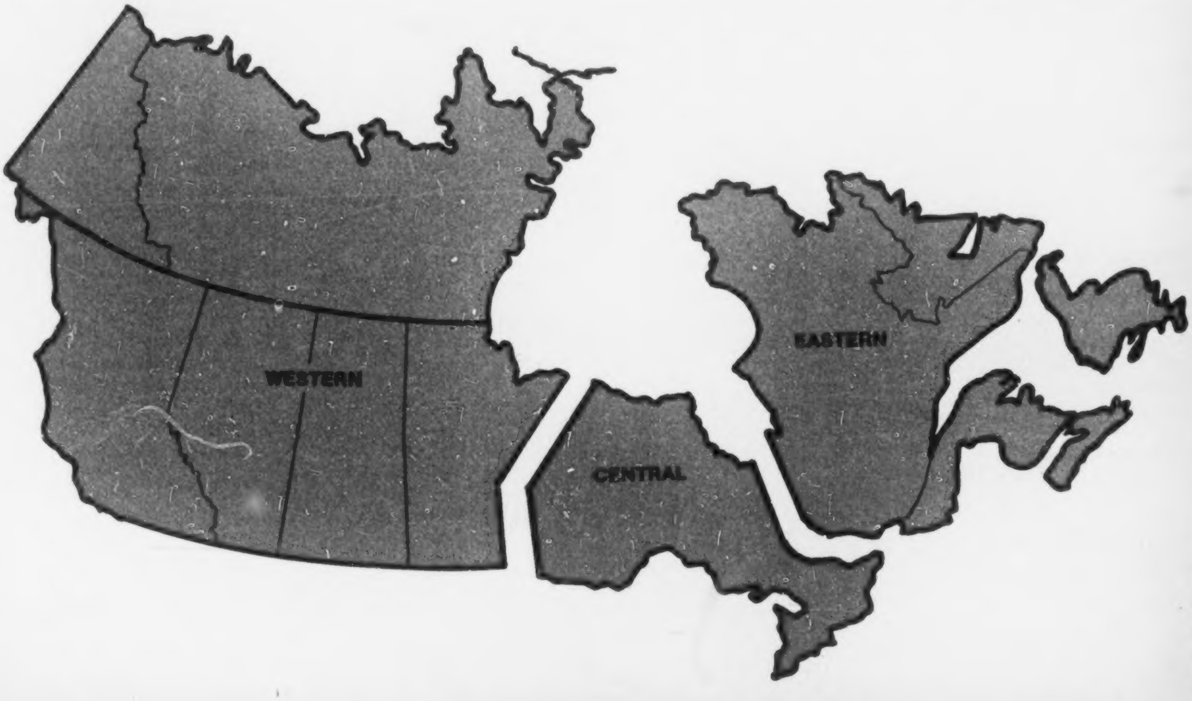
The study presents market shares and percentages of outlets on both a national and regional basis for conventional service stations, gasoline pumpers, convenience stores that sell gasoline, plus a general category of "others" including car washes, garages and other facilities where gasoline is secondary.

This study is concentrated in Canada's metropolitan areas, where most gasoline is marketed. It does not count rural and highway vendors which, while important to the industry, do not add substantially to overall consumption data.

Canadian Regional and National Market Shares

	Service Stations		Pumpers		Convenience Food Stores		Others		Total	
	1989	1988	1989	1988	1989	1988	1989	1988	1989	1988
Eastern Region										
• % of Outlets	46.4	47.4	26.6	26.3	10.9	10.5	16.1	15.8	100.0	100.0
• % of Volume	43.3	44.0	40.9	40.6	8.2	7.9	7.6	7.5	100.0	100.0
• Avg. Monthly Volume (Liters)*	133,022	133,918	219,561	222,573	107,704	107,498	66,776	67,983	142,574	144,013
• Avg. Monthly Volume (U.S. gal.)	35,191	35,428	56,085	58,882	28,493	28,439	17,666	17,985	37,718	38,097
Central Region										
• % of Outlets	49.1	50.6	35.2	34.5	4.0	3.0	11.7	11.9	100.0	100.0
• % of Volume	44.2	46.6	48.6	46.8	2.7	2.0	4.5	4.6	100.0	100.0
• Avg. Monthly Volume (Liters)*	193,283	198,345	296,297	292,760	144,233	142,705	83,034	82,452	214,719	215,350
• Avg. Monthly Volume (U.S. gal.)	51,133	52,472	78,385	77,450	38,157	37,753	21,967	21,813	56,804	56,971
Western Region										
• % of Outlets	36.8	37.1	44.0	44.3	8.8	8.0	10.4	10.6	100.0	100.0
• % of Volume	35.6	35.7	56.0	56.2	4.8	4.5	3.6	3.6	100.0	100.0
• Avg. Monthly Volume (Liters)*	185,786	186,768	244,160	246,957	103,939	108,643	67,429	67,027	191,957	194,494
• Avg. Monthly Volume (U.S. gal.)	49,150	49,410	64,593	65,333	27,498	28,741	17,838	17,732	50,782	51,442
Total Canada										
• % of Outlets	44.8	45.8	34.7	34.3	7.7	7.0	12.8	12.9	100.0	100.0
• % of Volume	41.5	42.7	48.7	47.9	4.7	4.3	5.1	5.1	100.0	100.0
• Avg. Monthly Volume (Liters)*	170,012	172,837	257,658	258,044	113,597	113,672	72,509	72,869	183,516	185,073
• Avg. Monthly Volume (U.S. gal.)	44,977	45,724	68,163	68,266	30,052	30,072	19,182	19,278	48,549	48,961

Source: MPSI Inc., Tulsa, Oklahoma.



Canadian Retail Gasoline Prices Are Now 60% Higher Than U.S.

Retail postings for gasoline have been on the upswing for both the United States and Canada, but Canadian pump prices increased at a faster rate last year than in the U.S.

According to the February 1990 Petroleum Product Market Report published by Energy, Mines and Resources Canada (EMR), the typical Canadian motorist paid an average of about $1.73/ (U.S. dollars) for a gallon of gasoline in January 1990. That's about 65/¢ or 60% higher than the price paid per gallon by American motorists in 1989 (see bar chart). The figures represent major city averages for all grades and type of service in both countries.

The spread between Canadian and U.S. pump prices jumped by 12.2¢/gal. last year, with a big chunk of the increase derived from a boost in federal and provincial sales taxes of 2.65¢/gal. and an increase of 3.2¢/gal. in excise taxes for unleaded grade gasolines and 6.4¢/gal. for leaded fuel.

Three-quarters (76%) of the price differential between Canada and the U.S. is attributable to the higher Canadian taxes. Taxes now account for an average of 71.3¢ of every gallon sold.

It was not always thus. In a separate report, "1980s: The Decade In Review," EMR points out that Canadian gasoline prices were actually lower in 1979 than in the U.S. By the end of 1989, however, the average Canandian price exceeded the U.S. prices by 60%, and the gap was the widest of the decade. The major cause: Between 1979 and 1989, Canadian provincial and federal fuel taxes rose almost four times as fast as in the U.S.

Another interesting comparison between the two countries are the disparities between full and self service prices. In the U.S., the average spread between full and self service is 29¢/gal. In Canada, however, the difference is on 3.2¢/gal. This would help explain why almost 50% of Canadians patronize full service pumps, compared to only 20% in the U.S.

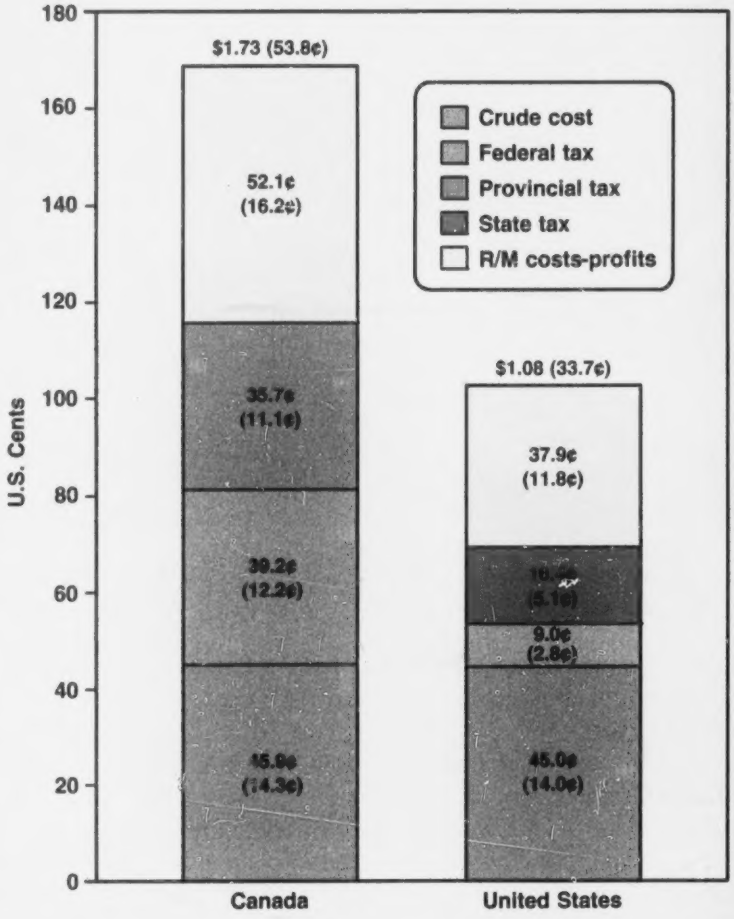
EMR's review of developments in the 1980s showed that the total number of outlets in Canada's 10 major centers declined by only 3.4% during the decade and actually increased by a total of 3% over the last three years. This increase coincided with a growth in gasoline demand during the period.

A major shift has also taken place in the retail outlet market share, EMR reports. While major refiners reduced their outlets by 12% over the 10-year period, independent marketers increased their number of stations by 54%. As a result, the independent's outlet share grew from 13% in 1979 to 20% in 1989.

The self serve outlet population is also growing in Canada, from less than 30% of total outlets in 1979 to 41% in the 10 major centers in 1989. The majors have led the conversion to self service, with over 50% of their outlets in that category. Independent marketers, on the other hand, have been slow to convert and only 18% of their outlets are now self serve.

"One of the marketing strategies often used by independents is to offer full serve gasoline at a price slightly below the self serve price of refiner-branded stations," EMR reports. "Many of the new outlets opened by the independent sector in recent years have offered full service."

Canada vs. U.S.—Motor Gasoline
Average Retail Prices, All Grades—January, 1990
(U.S. cents/gal.—Canadian cents/liter shown in parenthesis)*



*Exchange rate - January 1990 = 1.1714

Canadian Statistics

Motor Vehicle Registrations 1988

	Passenger Cars	Trucks	Buses	Motorcycles	Others	Total Vehicles	Trailers	Off-road Snowmobiles	Off-road Other	Licensed gasoline outlets
Newfoundland	198,556	89,028	1,200	10,513	7,467	307,049	32,058	69,600	15,427	..
Prince Edward Island	59,113	21,129	437	1,670	182	82,531	3,083	432	513	..
Nova Scotia	348,173	145,127	1,692	16,560	379	512,067	51,009	14,162	25,729	..
New Brunswick	301,698	133,179	..	10,340	5,395	451,562	56,852	..	20,986	1,240
Quebec	2,796,642	464,794	14,205	72,302	61,185	3,432,035	714,922	80,104	255,579	..
Ontario	4,577,803	1,059,092	28,341	133,580	..	5,804,105	1,032,887	285,744	68,634	7,777
Manitoba	535,985	220,523	162	13,272	34	769,976	103,959	20,571	207	..
Saskatchewan	460,969	276,200	4,345	6,184	7,560	755,350	99,053	6,381	..	..
Alberta	1,141,705	630,534	9,160	37,842	..	1,820,141	373,084	15,077	18,422	..
British Columbia	1,634,863	649,519	..	66,055	..	2,350,437	271,098	51,597	..	..
Yukon	9,028	15,292	181	812	1,764	27,077	3,614	481	..	..
Northwest Territories	21,466	1,615	111	628	111	23,931	2,753	1,567	1,245	
Canada	**12,086,001**	**3,706,032**	**59,834**	**369,758**	**84,077**	**16,336,261**	**2,744,372**	**545,716**	**406,742**	**9,017**

NB: e estimated
"Off-road other" includes farm tractors, construction equipment etc.
.. figures not available
Source: All tables this page from Statistics Canada.

Automobiles Per Household 1989
estimates in thousands

	Households	Total Households with Vehicles	Households with automobiles: Total	1 auto	2 autos	3 or more autos	without autos	Vans or trucks: with 1	Households with 2 or more
Newfoundland	167	134	110	89	19	—	56	51	—
Prince Edward Island	44	39	36	26	9	—	8	13	—
Nova Scotia	309	260	241	176	55	10	68	77	10
New Brunswick	242	204	186	141	40	5	56	76	7
Quebec	2,511	1,983	1,879	1,380	427	73	633	370	22
Ontario	3,408	2,859	2,723	1,724	819	180	685	682	60
Manitoba	383	320	292	208	68	16	90	105	18
Saskatchewan	358	312	282	195	68	20	76	126	32
Alberta	865	789	714	460	194	60	151	283	77
British Columbia	1,189	1,030	952	646	239	67	237	360	44
Canada 1989	**9,477**	**7,931**	**7,416**	**5,044**	**1,938**	**434**	**2,060**	**2,142**	**274**

New Motor Vehicle Sales

	Total, new motor vehicles	Passenger cars	Comm. vehicles	Cars: North America	Cars: Japan	Cars: Other Countries(1)	Commercial Vehicles: North America	Commercial Vehicles: Other Countries(1)
1989	1,483,885	993,312	490,573	674,302	245,764	73,246	422,398	68,175
1988	1,565,501	1,056,310	509,191	724,733	243,835	87,742	459,777	49,414
1987	1,533,637	1,065,093	468,544	700,930	243,288	120,875	417,189	51,355

(1) Excludes Japanese and North American manufactured vehicles.

Factory Sales of Auto Batteries

	1989	$
Replacement:		
Automotive & Heavy-duty Commercial	3,183,457	163,021,333
Other batteries (incl marine, recreational vehicle and railroad diesel starting)	162,271	8,887,749
For Direct Motive Power:		
Large cells (incl railroad & fork lift)	202,629	28,495,262

Drivers' Licenses 1988

	Operators (drivers & chauffeurs)	Temporary (instructor permits)
Newfoundland	303,685	8,143
Prince Edward Island	81,863	..
Nova Scotia	555,018	13,263
New Brunswick	440,882	25,950
Quebec	3,938,301	..
Ontario	6,118,112	307,748
Manitoba	765,494	..
Saskatchewan	647,445	..
Alberta	1,821,100	105,275
British Columbia	2,441,635	..
Yukon	30,282	103
Northwest Territories	10,814	1,499
Canada	**17,154,631**	**461,981**

.. Figures not available.

Principal Heating Fuels in 1989
(000 Households)

	Oil	Piped Gas	Bottled Gas	Electricity	Other	Wood	Total Households
Newfoundland	61	—	—	70	—	36	167
Prince Edward Island	34	—	—	—	—	9	44
Nova Scotia	197	—	4	65	5	38	309
New Brunswick	80	—	—	120	—	41	242
Quebec	521	178	—	1,710	—	100	2,511
Ontario	573	2,037	26	702	...	68	3,408
Manitoba	23	219	—	129	—	8	383
Saskatchewan	26	299	4	17	—	...	358
Alberta	15	818	18	7	...	...	865
British Columbia	153	649	...	323	—	55	1,189
Canada	**1,682**	**4,199**	**65**	**3,143**	**19**	**369**	**9,477**

Note: Data from a sample survey only.
—amount too small
... figures not applicable
"Other" includes Coal and Coke.

LPG Sales by States and Uses—1988

(Add 000 gal.)

	Residential and Commercial	Chemical	Industrial (1)	Engine Fuel	Utility Gas	Farm	Other (2)	Total (3)
Alabama	154,741*	w	12,496	10,847	w	22,951	1,728	203,460
Alaska	8,792	—	w	896	—	w	w	11,930
Arizona	44,963	—	11,356	7,102	w	3,794	2,831	71,827
Arkansas	104,765	w	4,526	8,898	w	41,522*	3,409	163,669
California	304,251	w	316,585	97,448*	w	38,090*	22,560*	837,107
Colorado	66,851	—	19,465*	5,262	—	10,564	1,753	109,700
Connecticut	38,088	w	15,794	2,815	w	2,501	1,946*	64,580
Delaware	27,970	w	3,063*	564	—	7,748	w	43,199
Florida	249,794*	—	32,431	20,226	w	19,451	6,295	344,946
Georgia	191,043	w	31,318*	12,639	w	51,761	3,327*	292,240
Hawaii	w	—	—	w	—	w	w	7,999
Idaho	15,512*	—	7,113	3,964	—	2,624	1,467	30,689
Illinois	239,237	158,990	42,031	47,691	22,706	107,408	4,884*	626,610
Indiana	265,750	140*	10,998	21,164	w	88,642	5,947*	403,965
Iowa	241,114	w	10,999	6,520	—	160,380	4,577*	424,779
Kansas	112,599	79,044	29,649	19,925	w	53,645	22,225*	440,305
Kentucky	168,414	w	113,134*	10,362	w	20,969	766	330,012
Louisiana	53,735	521,808	302,921	9,770	w	8,506	6,289*	958,783
Maine	46,422	w	14,291	2,752	3,360	209	w	68,253
Maryland & D.C.	46,080	—	14,840	5,299	—	6,153	500*	72,979
Massachusetts	68,522	—	11,336	5,709	13,055	643	1,160*	100,964
Michigan	509,809	w	64,110	48,964	w	41,842	80,332*	832,585
Minnesota	223,216	—	28,534	10,541	w	78,333	1,359*	343,762
Mississippi	116,079	w	18,188	16,161	—	17,107	927*	170,510
Missouri	303,446	w	27,633	14,598	w	61,116	2,226*	410,148
Montana	34,054	w	9,705	4,725	—	1,150	2,842	52,903
Nebraska	93,814	w	7,739	7,278	—	116,320	156	225,479
Nevada	32,677	—	7,854	2,353*	—	1,714	w	46,954
New Hampshire	69,514	—	8,538	1,338	w	28	w	90,831
New Jersey	69,311	116,855*	19,854	8,151	w	854	4,427*	263,048
New Mexico	50,738	w	4,728	8,711	—	2,586	841	67,582
New York	190,754	w	15,136	11,295	w	6,753	1,756*	226,611
North Carolina	184,222	w	44,109	13,742	891	94,664	2,931*	341,971
North Dakota	58,952	—	7,439	2,282	w	22,453	719	92,014
Ohio	312,747	—	147,409*	49,465	w	58,852	6,637*	581,341
Oklahoma	103,856	w	38,556	14,504	w	36,025	1,763*	242,701
Oregon	16,854	—	18,304*	21,780	—	5,913	3,786	66,488
Pennsylvania	121,085	w	71,566*	16,348	1,585	22,955	8,841*	243,484
Rhode Island	13,528	—	5,020	1,909	w	138	w	23,842
South Carolina	101,091	w	22,731	7,975	w	18,560	2,111	152,734
South Dakota	74,168	—	2,147	2,727	—	20,155	1,808	101,005
Tennessee	137,515	w	16,987	20,807	w	8,081	2,889*	187,459
Texas	346,372	4,983,733	64,080	55,624	24,618	68,414	6,088*	5,550,190
Utah	23,726*	w	8,946*	5,985*	w	2,205	w	51,303
Vermont	46,506	—	1,424	1,017	—	127	w	50,353
Virginia	91,587	w	30,731*	9,089	w	29,999	22,831*	185,097
Washington	27,900	—	30,726	29,942	—	6,285	5,507	100,360
West Virginia	17,188	w	3,203	2,064	w	2,927	w	44,375
Wisconsin	273,753	—	18,575	19,214	w	53,933	8,436*	374,336
Wyoming	36,899*	w	20,979	4,733*	w	3,477	3,217	80,038
U.S. Total	**6,148,583**	**6,057,465**	**1,803,392**	**714,778**	**200,365**	**1,431,025**	**451,741**	**16,807,500**

* Propane only; butane withheld

w—Data withheld to avoid disclosing reports for individual companies. These reports included in totals.

(1) Includes refinery fuel.

(2) Includes secondary recovery of petroleum and synthetic natural gas feedstock.

(3) API data on LP-gas refinery inputs is used in determining LP-gas production/sales in preference to the volume reported by EIA.

Source: National Propane Gas Assn. and API.

LPG Sales Trends in Recent Years (a)

Major Domestic Markets (Add 000,000 gal.)

Year	Total U.S. Sales		Residential-Commercial		Chemical		Internal Combustion		Industrial		Farm	
	Vol.	% Change	Vol.	% Change	Vol.	% Change	Vol.	% Change	Vol.	% Change	Vol.	% Change
1988	16,807	4.0%	6,149	8.4%	6,057	(4.0%)	715	(0.4%)	1,803	39.4%	1,431	(1.2%)
1987	16,157	12.8	5,671	0.1	6,307	47.8	718	(13.5)	1,293	(3.6)	1,459	(10.7)
1986	14,325	(5.0)	5,607	(3.2)	4,267	(0.9)	821	(12.8)	1,341	3.2	1,634	(4.2)
1985	15,080	(0.3)	5,794	11.4	4,307	4.8	942	1.0	1,299	(31.2)	1,706	2.6
1984	15,129	10.5	5,203	(14.6)	4,109	26.7	951	(30.2)	1,888	54.7	1,663	40.7
1983	13,688	(1.6)	6,090	(1.5)	3,244	(3.5)	1,362	9.8	1,220	(6.9)	1,183	(8.0)
1982	13,915	(3.3)	6,180	(2.1)	3,362	(3.2)	1,240	9.7	1,310	(5.0)	1,285	(12.1)
1981	14,395	(3.8)	6,310	(3.4)	3,474	(3.1)	1,130	3.6	1,380	(10.9)	1,463	(4.4)
1980	14,969	(8.9)	6,531	(4.9)	3,584	(11.3)	1,090	4.3	1,548	(20.2)	1,529	(15.4)
1979	16,432	9.4	6,871	1.2	4,043	12.7	1,045	5.5	1,940	44.8	1,764	—

This is as far back as the restated API/LPGA data go on sales trends. The figures below are Energy Information Administration data and are not essentially comparable to the restated data above. In the data below, the last column was for "all other uses" instead of farm consumption.

Year	Total U.S. Sales		Residential-Commercial		Chemical		Internal Combustion		Industrial		Farm	
	Vol.	% Change	Vol.	% Change	Vol.	% Change	Vol.	% Change	Vol.	% Change	Vol.	% Change
1977	15,508	−3.2	7,169	−2.0	3,578	−12.4	1,145	−2.1	1,044	—	2,573	7.5
1975	15,200	−6.8	7,020	−2.9	4,172	−23.0	1,162	−11.3	1,082	1.2	1,763	38.3
1970	15,271	26.6	7,569	41.6	5,003	24.8	1,336	11.9	897	32.1	467	125.6
1965	11,434	33.7	5,346	26.5	4,008	54.6	1,194	33.0	679	13.9	207	−23.0
1960	8,579	40.1	4,225	50.8	2,593	36.5	898	37.7	596	13.7	269	9.3

(a) In 1984, Energy Information Administration suddenly terminated collection of LPG sales data for budgetary reasons. American Petroleum Institute, Liquefied Petroleum Gas Assn. and others began a cooperative effort to provide the missing data annually. The 1983 and 1984 data were published in March, 1986. The new information is based on EIA data, plus API and LPGA, and are restated for the years 1979 through 1984. Utility gas, refinery fuel and miscellaneous uses are included in U.S. totals but are not stated separately.
Source: NPGA and API.

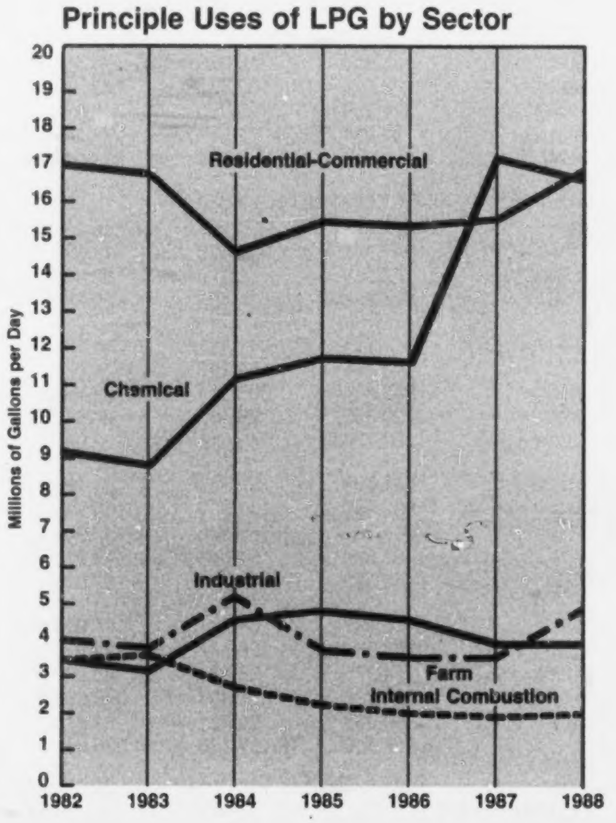
LPG Sales Reach New Peak In 1988—Industrial Consumption Shows The Biggest Jump

Led by a 40% increase in industrial sales, consumption of liquefied petroleum gas (LPG) continued on an upswing during 1988, moving up 4% to a total of 16.8-billion gal. for the year. The 1988 total represents a record sales year for the industry.

The strongest demand for LPG occurred in the industrial sector, with volume rising from 1.3-billion gal. in 1987 to 1.8-billion gal. in 1988. Demand from residential/commercial customers was also up a healthy 8.4% to 6,147-billion gal.

While LPG sales were up overall in 1988, some market segments were down slightly for the year. Chemical LPG use was down by 4% following a huge 47.8% increase the year before.

In the table above, LPG used in refineries is included in industrial consumption. Other secondary uses are lumped together in the U.S. total.



Principle Uses of LPG by Sector

LPG Sales by States, 1982-'88

(Add 000 gal.)

	1988	1987(2,3,4)	1986(2,3,4)	1985(2,3)	1984(2,3)	1983(1)	1982(1)
Alabama	203,460	199,719	175,072	174,219	178,075	206,881	213,548
Alaska	11,930	11,799	13,300	14,889	w	24,783	36,139
Arizona	71,827	81,899	82,649	76,034	66,727	73,890	73,127
Arkansas	163,669	151,705	167,503	176,381	168,904	190,425	193,913
California	837,107	760,059	226,324	776,882	739,859	638,197	625,100
Colorado	109,700	93,217	89,478	105,256	103,705	167,763	225,710
Connecticut	64,580	61,194	46,383	51,680	51,282	54,967	59,244
Delaware	43,199	36,717	33,084	41,825	49,652	43,007	39,365
Florida	344,946	351,349	431,608	399,436	347,271	396,833	378,633
Georgia	292,240	259,010	274,184	291,335	263,364	288,293	283,259
Hawaii	7,999	7,427	6,712	6,296	w	23,140	37,757
Idaho	30,689	25,367	30,718	36,230	31,815	39,089	44,525
Illinois	626,610	724,026	764,188	788,693	794,966	624,976	613,051
Indiana	403,965	390,877	329,913	328,805	357,416	321,871	282,080
Iowa	424,779	375,396	588,186	591,080	528,416	441,185	408,322
Kansas	440,305	321,476	212,224	611,981	756,234	345,937	273,425
Kentucky	330,012	333,929	270,554	284,430	260,962	214,026	218,674
Louisiana	958,783	848,555	896,539	952,434	982,522	236,384	202,029
Maine	68,253	51,248	42,465	26,533	22,935	33,096	38,113
Maryland & D.C.	72,979	69,569	59,584	75,501	96,840	89,809	77,805
Massachusetts	100,964	103,691	94,715	71,752	65,990	88,042	105,076
Michigan	832,585	817,843	801,192	720,361	484,763	431,990	327,955
Minnesota	343,762	316,810	397,852	356,330	333,725	313,466	297,694
Mississippi	170,510	153,275	147,132	208,514	218,242	225,201	233,627
Missouri	140,148	362,524	384,048	372,837	340,805	411,025	455,980
Montana	52,903	50,973	63,384	61,597	49,258	62,941	77,359
Nebraska	225,479	199,576	163,284	176,763	149,236	156,875	180,572
Nevada	46,954	39,855	45,898	47,390	36,366	40,072	38,652
New Hampshire	90,831	82,561	71,272	64,713	50,017	59,096	64,583
New Jersey	263,048	252,581	207,911	232,104	264,907	111,901	124,038
New Mexico	67,582	67,733	71,050	140,102	153,130	158,873	154,427
New York	226,611	221,553	208,275	207,808	208,193	262,584	245,749
North Carolina	341,971	358,596	314,373	323,396	299,367	282,743	275,717
North Dakota	92,014	88,589	89,402	26,811	31,464	47,613	66,273
Ohio	581,341	534,490	520,397	603,114	504,464	662,365	867,725
Oklahoma	242,701	241,441	280,609	400,132	272,150	249,347	260,694
Oregon	66,488	64,205	71,896	67,666	60,694	68,683	64,582
Pennsylvania	243,484	205,314	186,764	228,144	239,876	225,533	222,533
Rhode Island	23,842	26,112	24,500	20,888	12,962	15,338	15,699
South Carolina	152,734	145,110	122,967	134,045	108,489	125,485	127,860
South Dakota	101,005	139,392	104,189	86,254	69,586	88,814	101,433
Tennessee	187,459	146,307	166,793	149,979	137,847	138,024	116,009
Texas	5,550,190	5,556,446	3,730,949	3,749,674	4,006,334	1,000,960	1,048,020
Utah	51,303	51,043	48,993	60,931	62,630	66,121	71,663
Vermont	50,353	44,281	37,026	33,848	28,321	38,814	41,955
Virginia	185,097	165,871	141,903	162,529	157,263	113,591	132,161
Washington	100,360	106,532	94,972	88,627	92,533	96,114	83,408
West Virginia	44,375	38,622	38,200	35,663	15,031	22,178	26,978
Wisconsin	374,336	321,334	346,983	361,689	364,777	337,044	280,861
Wyoming	80,038	99,922	67,828	76,241	75,340	88,071	120,004
Totals	**16,807,500**	**16,157,120**	**14,325,445**	**15,079,822**	**14,789,925**	**10,443,456**	**10,553,086**

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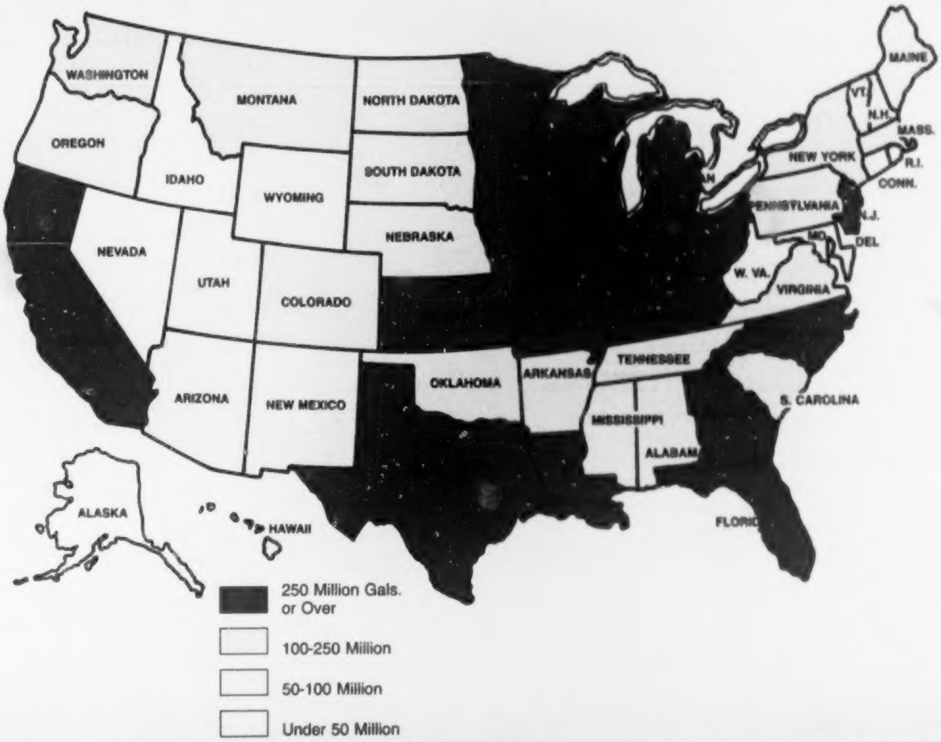
w-Data withheld to avoid disclosing reports for individual companies. These reports included in totals: (1) Does not include chemical feedstock use: (2) Does include chemical feedstock use: (3) APILP-sales survey does not include LP-gas export sales. Also, API data on LP-gas refinery inputs is used in determining LP-gas production/sales in preference to the volume reported by EIA, see page 3: (4) Significant changes in some states from 1985 and earlier LP-gas sales are based on additional information furnished to API by natural gas liquids pipeline companies.

Source: NLPGA and API.

Where LPG Was Used in 1988


WASHINGTON
MONTANA
NORTH DAKOTA
OREGON
IDAHO
SOUTH DAKOTA
WYOMING
NEBRASKA
NEVADA
UTAH
COLORADO
ARIZONA
NEW MEXICO
OKLAHOMA
ARKANSAS
TENNESSEE
MISSISSIPPI
ALABAMA
FLORID
S. CAROLINA
VIRGINIA
W. VA.
MD.
DEL
N.J.
PENNSYLVANIA
NEW YORK
CONN.
R.I.
MASS.
N.H.
VT.
MAINE
AN
ALASKA
HAWAII
250 Million Gals. or Over
100-250 Million
50-100 Million
Under 50 Million

SELF SERVE
REGULAR
109 9/10
UNLEADED
116 9/10
SUPER UNLEADED
123 9/10
GASOLINE
FINA

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Lube Sales Dip Slightly in 1989

Preliminary reports from the National Petroleum Refiners Assn.'s annual lubricants survey indicates that sales were off 1.6% in 1989. This was the second consecutive year of slippage. Preliminary estimates for 1988 had indicated an increase of 1.5%, but these findings were revised downward to a minus one-tenth of one percent in subsequent reports.

The NPRA report does not give volumes, only indexes and percentages which are based on the reports of participating companies. To preserve the confidentiality aspects of company sales, the reports are given to an independent auditor who converts them into indexes on an industry-wide basis.

The product categories, as defined by NPRA, are these: automotive oil—engine oils, automatic transmission fluids, gear oils and aviation oils; industrial oil—industrial engine oils, metalworking fluids, process oils and general industrial oils; grease—both automotive and industrial greases.

All finished lubricants are included in the NPRA totals. Not included, however, are exports and lube base stocks sold for further blending into finished lubricants.

NPRA stated that the data reflect the sales of the participating companies only. Sales of finished lubricants by other companies (commonly known as independent compound blenders) are not covered.

For its categories, NPRA used 55.5% of the sales for automotive oils, 42.3% for industrial oils, and 2.2% for greases.

Quarterly Indexes on Lubricant Sales

	Quarters				Full Year
	1	2	3	4	
1989 (p)	103.2	109.0	102.0	97.9	103.0
1988 (r)	102.5	110.5	107.6	98.3	104.7
1987	101.2	108.5	108.6	101.3	104.9
1986	100.4	107.2	104.4	93.7	101.4
1985	99.5	107.7	103.5	95.4	101.5
1984	103.1	108.5	106.2	97.5	103.8

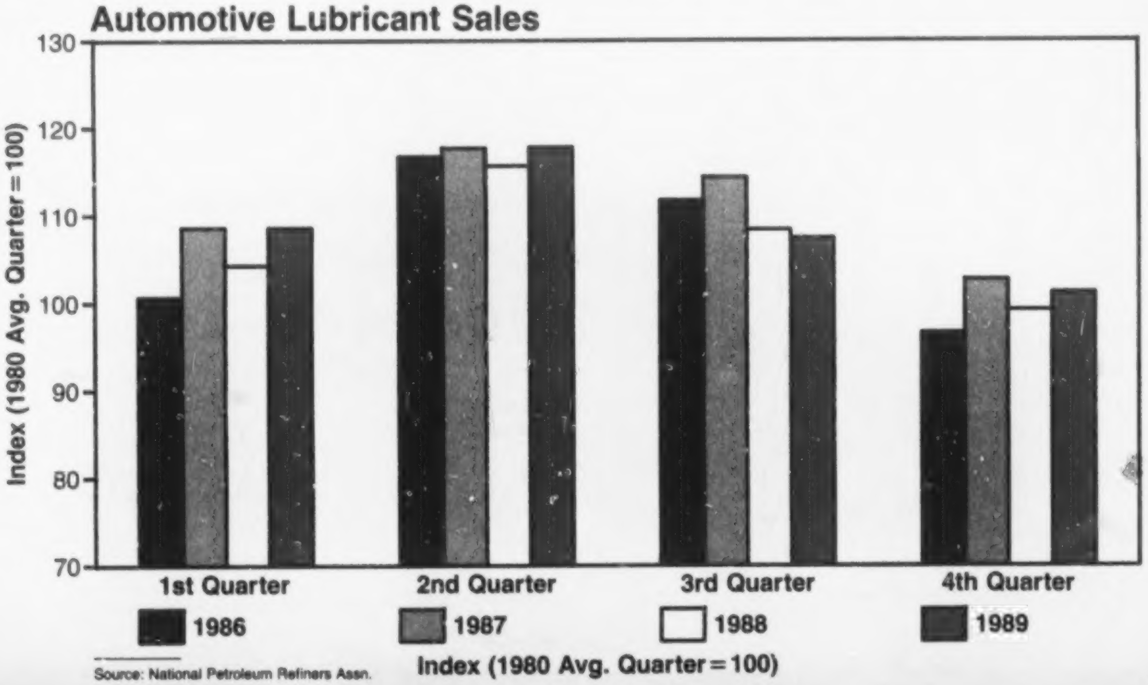
Percentage Changes by Products and Quarters

	Quarters				Full Year
1989 vs. 1988 (p)	1	2	3	4	
Automotive	3.9%	2.4%	−0.6%	2.3%	1.9%
Industrial	−3.5	−6.2	−10.3	−3.3	−5.9
Grease	−5.2	−11.8	−18.3	−13.9	−12.7
Total	**0.7**	**−1.4**	**−5.2**	**−0.4**	**−1.6**
1988 vs. 1987 (r)					
Automotive	−3.6%	−1.9%	−5.4%	−3.2%	−3.5%
Industrial	8.6	7.7	5.0	−2.5	4.6
Grease	5.1	6.6	11.3	−2.4	5.1
Total	**1.3**	**1.9**	**−0.9**	**−2.9**	**−0.1**
1987 vs. 1986					
Automotive	6.1%	0.5%	1.8%	6.2%	3.4%
Industrial	−6.0	2.9	8.7	11.4	4.0
Grease	−9.6	−8.0	−13.5	−0.5	−8.0
Total	**0.7**	**1.2**	**4.0**	**8.1**	**3.4**
1986 vs. 1985					
Automotive	−4.1%	−3.2%	−1.3%	−1.9%	−2.7%
Industrial	8.8	4.4	4.0	−2.0	3.8
Grease	−1.6	−8.3	4.1	3.8	−0.6
Total	**0.9**	**−0.5**	**0.8**	**−1.8**	**−0.1**

(p) preliminary for 1989; (r) revised for 1988

N.B. For the index, the average quarter in 1980 = 100%; the base for quarterly indexes is 1980 full year sales for the reporting companies divided by four.

Source: National Petroleum Refiners Assn.


Automotive Lubricant Sales

Source: National Petroleum Refiners Assn.

Lube Sales Slip 1.3% in '89, EIA Says

Lubricants had a varied year in 1989, mostly on the negative side, however. A recap of Energy Information Administration's monthly reports shows that refinery output was off 4.4% and demand was down 1.3%; imports were up 9.5% but exports were down 24.4% in comparison to 1987's big showing of 9.0-million bbl.

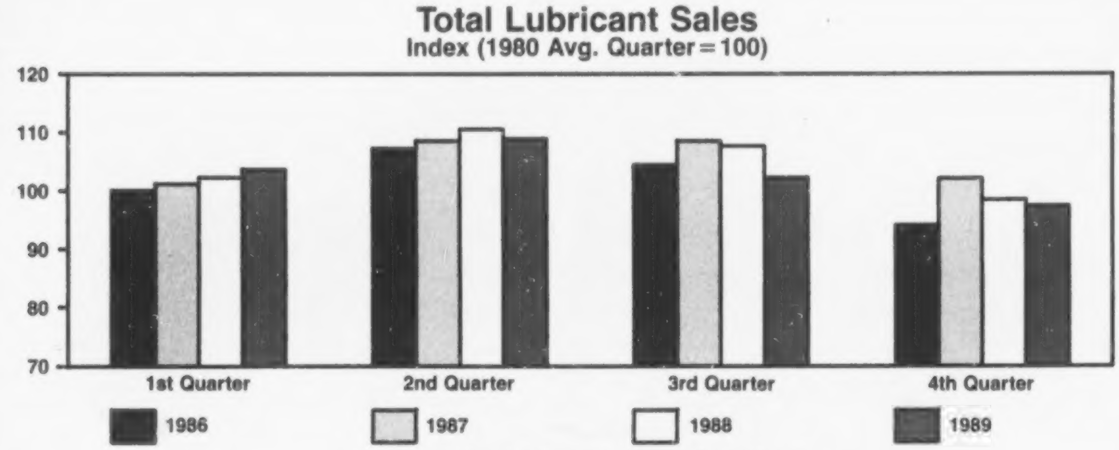
Puerto Rico and Canada continued to be the principal suppliers of U.S. imports. Puerto Rico's edge was slightly under 3-million bbl. of lubricants while Canada's was 719,000 bbl. Others exporting lubricants to the U.S. were: The Netherlands, 89,000 bbl.; China, 73,000 bbl.; Brazil, 64,000 bbl.; Japan, 37,000 bbl.; Nigeria, 22,000 bbl.; Colombia, 7,000 bbl. Miscellaneous others accounted for 15,000 bbl. to make up the U.S. total of 4.0-million bbl.

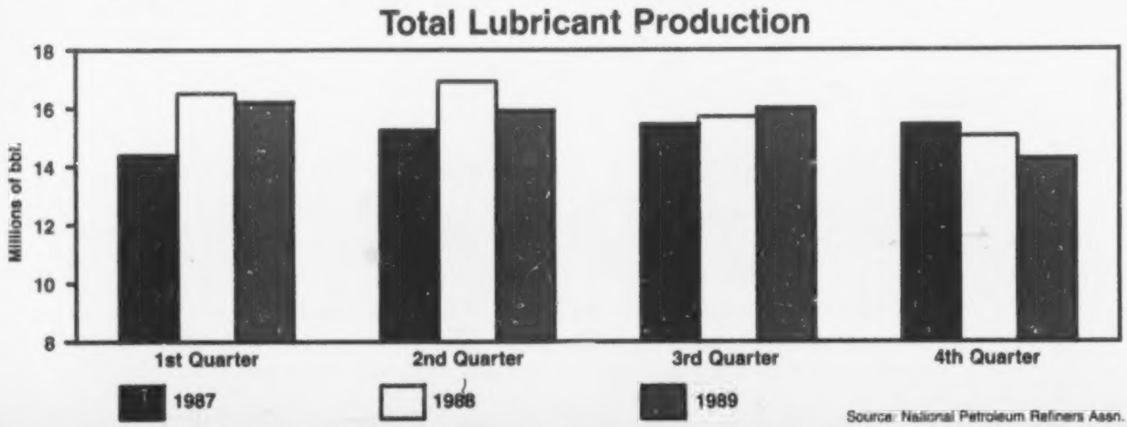
The report also showed that 3.5-million of the U.S. total wound up in PAD 1, the Atlantic seaboard, while PAD 2 pulled in 297,000 bbl. The West Coast used 96,000 bbl. while PAD 3, the South and Southwest, accounted for 43,000 bbl. PAD 4, the Midcontinent and the Rockies, surprisingly didn't bring in a drop, according to the EIA records.

Lubricants—Supply, Disposition and Stocks
(Thousands of bbl.)

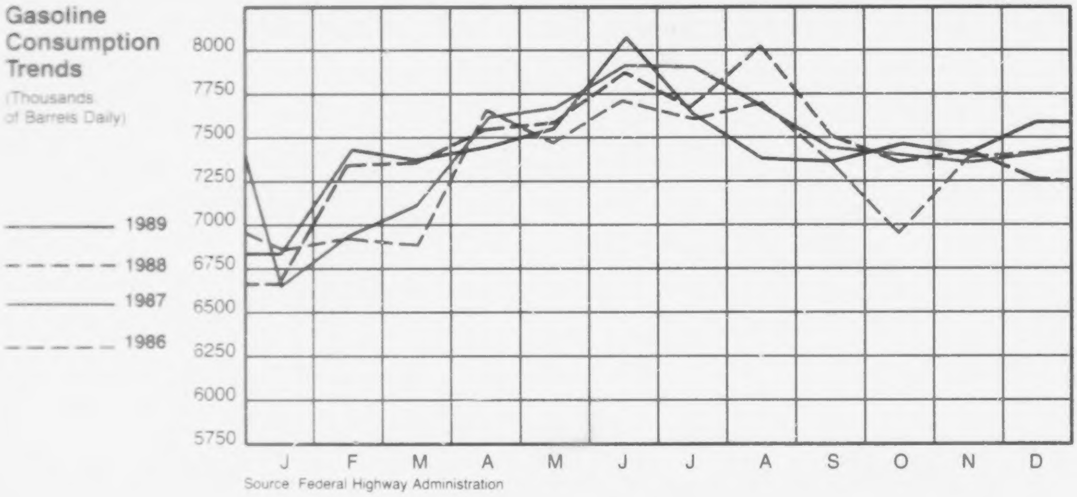
	Refinery Production	Imports	Stock Changes	Exports	Products Supplied	Ending Stocks		
						Refinery	Bulk Term.	Total
1989	59,738	4,005	528	6,815	56,400	9,183	4,643	13,826
1988	62,478	3,658	19	9,018	57,137	9,475	3,823	13,298
1987	61,639	4,076	1,475	8,613	58,577	9,410	3,907	13,317
1989 Month-by-Month Variations in Supplies								
Jan.	5,355	876	975	411	4,345	9,792	4,481	14,273
Feb.	4,627	378	225	508	4,272	9,720	4,778	14,498
Mar.	5,247	413	(617)	534	5,743	9,571	4,310	13,881
Apr.	4,610	214	(333)	544	4,613	8,984	4,564	13,548
May	5,307	474	(396)	500	5,677	8,787	4,365	13,152
June	5,038	385	(106)	489	5,040	8,789	4,257	13,046
July	5,603	327	1,215	702	4,013	9,484	4,777	14,261
Aug.	5,292	382	208	600	4,866	9,658	4,811	14,469
Sept.	4,760	203	(231)	516	4,678	9,696	4,542	14,238
Oct.	4,360	279	(1,004)	513	5,130	8,841	4,393	13,234
Nov.	5,020	302	85	863	4,374	8,901	4,418	13,619
Dec.	4,519	272	507	635	3,649	9,183	4,643	13,826
Total	59,738	4,005	528	6,815	56,400	9,183	4,643	13,826

Source: Energy Information Administration, Petroleum Supply Monthlies, Jan. to Dec. issues 1989.


Total Lubricant Sales
Index (1980 Avg. Quarter = 100)


Total Lubricant Production

Source: National Petroleum Refiners Assn.



Source: Federal Highway Administration

Gasoline Consumption by States—1989

(Includes highway and off-highway consumption)

	Rank		(Add 000 gal.) Gallonage (a)			(Add 000 gal.) Gasohol Included	
	1989	1988	1989	1988	% Chng.	1989	1988(b)
Alabama	19	21	2,122,400	2,072,236	2.4%	195,725	413,308
Alaska	50	50	239,017	246,038	(2.8)	12	215
Arizona	25	24	1,709,888	1,708,609	—	—	—
Arkansas	32	32	1,277,910	1,272,178	0.5	—	—
California	1	1	13,338,831	12,900,336	3.4	369,185	489,235
Colorado	26	27	1,535,449	1,561,689	(1.7)	70,522	50,707
Connecticut	28	28	1,498,324	1,397,428	7.2	—	—
Delaware	47	47	349,255	347,242	0.6	—	—
Dist. of Col.	—	—	182,672	186,686	—	333	446
Florida	3	3	6,162,552	6,040,283	2.0	78,968	76,312
Georgia	9	9	3,573,874	3,539,768	1.0	30,265	6,291
Hawaii	44	45	392,495	376,090	4.3	—	—
Idaho	41	41	487,784	478,952	1.9	64,830	45,012
Illinois	5	6	4,994,376	4,971,834	0.5	1,262,226	1,406,620
Indiana	14	14	2,642,311	2,760,066	(4.3)	—	651,544
Iowa	29	29	1,409,951	1,395,039	1.0	385,991	402,844
Kansas	31	31	1,296,792	1,326,752	(2.3)	98,586	120,763
Kentucky	23	23	1,851,136	1,889,808	(2.1)	403,859	656,845
Louisiana	22	22	2,040,067	2,064,779	(1.2)	53,161	79,635
Maine	37	38	694,543	658,179	5.6	—	—
Maryland	18	19	2,157,848	2,099,811	2.8	—	—
Massachusetts	16	16	2,521,208	2,542,571	0.9	—	—
Michigan	8	8	4,378,611	4,383,647	(0.2)	402,714	495,565
Minnesota	21	20	2,102,362	2,092,710	0.4	170,499	171,929
Mississippi	33	33	1,258,286	1,264,910	(0.6)	—	—
Missouri	13	13	2,758,383	2,780,023	(0.8)	—	—
Montana	42	42	452,709	448,745	0.9	65	257
Nebraska	36	37	801,115	801,447	—	271,082	258,073
Nevada	39	39	603,276	605,424	(0.3)	37,342	56,716
New Hampshire	40	40	527,295	527,610	—	—	—
New Jersey	10	11	3,479,752	3,491,849	(0.3)	—	—
New Mexico	35	36	820,566	828,818	(1.0)	171,297	147,656
New York	4	4	5,769,796	5,698,886	1.2	—	—
North Carolina	11	10	3,369,498	3,387,273	0.5	—	—
North Dakota	46	46	361,259	365,846	(1.4)	37,966	44,317
Ohio	7	5	4,538,586	5,013,487	(9.5)	850,649	981,874
Oklahoma	24	25	1,751,590	1,685,946	3.9	—	—
Oregon	30	30	1,368,250	1,364,831	0.2	—	—
Pennsylvania	6	7	4,710,447	4,766,668	(1.2)	—	—
Rhode Island	45	43	384,987	401,304	(4.0)	—	—
South Carolina	27	26	1,503,672	1,595,246	(5.7)	82,454	102,333
South Dakota	43	44	398,125	396,289	0.5	56,524	58,150
Tennessee	15	15	2,634,776	2,541,699	7.0	299,077	580,227
Texas	2	2	8,792,634	8,890,051	(1.1)	216,607	260,366
Utah	38	35	650,586	779,897	16.5	469	358
Vermont	49	49	283,993	291,291	(2.4)	—	—
Virginia	12	12	3,044,441	3,022,281	0.7	251,793	282,181
Washington	17	17	2,337,041	2,158,790	8.2	64,169	54,519
West Virginia	34	34	836,891	840,609	(0.5)	—	—
Wisconsin	20	18	2,122,168	2,117,182	0.2	47,260	20,175
Wyoming	48	48	288,303	318,967	(9.6)	64	62
Total U.S.	—	—	**115,251,800**	**114,703,950**	**0.5**	**5,972,381**	**7,921,535**

(a) These totals reflect the gross gallonage of gasoline reported for tax purposes by wholesale distributors in each state. The data are taken from state tax reports. The data include highway and non-highway use and losses; (b) These totals show gross gal. of gasohol (ethanol blends) reported by the states. In states where gasohol is taxed at the same rate as gasoline, some gasohol may be commingled with gasoline data. All totals—gasoline and gasohol—are preliminary.

Source: Federal Highway Administration, Monthly Gasoline Reports—1989.

Gasoline Consumption by Months—1988

This table, based on Federal Highway Administration data, shows gross gallons of gasoline reported by wholesale distributors in each state. The data are taken from state taxation reports and may reflect time lags up to six weeks between the wholesale level and retail sales. The data include highway use, nonhighway use and losses.

(Add 000 gal.)

State	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Alabama	155,061	154,506	173,622	169,798	178,199	181,419	173,666	175,002	179,095	155,015	190,201	186,652	2,072,236
Alaska	15,897	16,683	17,863	17,975	19,322	27,594	27,259	24,963	19,371	23,692	17,555	17,664	246,038
Arizona	144,653	130,427	145,387	146,097	151,821	139,110	153,533	143,922	134,954	142,936	142,255	133,514	1,708,609
Arkansas	39,664	155,178	101,043	88,775	127,498	114,605	108,023	116,263	103,960	97,324	89,729	130,096	1,272,178
California	1,023,143	976,079	1,098,173	1,035,712	1,072,991	1,084,624	1,110,027	1,143,575	1,064,845	1,095,858	1,063,687	1,131,652	12,900,366
Colorado	120,689	113,857	127,472	128,927	128,719	140,668	148,955	148,546	128,477	140,293	130,144	104,942	1,561,689
Connecticut	118,104	116,066	128,208	121,520	130,554	129,172	126,504	133,731	97,860	103,848	100,237	91,624	1,397,428
Delaware	24,623	25,608	28,456	28,415	48,146	12,996	31,382	32,847	29,118	28,784	27,199	29,668	347,242
Dist. of Col.	14,600	14,068	16,565	15,258	16,028	15,994	15,686	16,081	15,044	15,712	15,377	16,273	186,686
Florida	506,621	474,284	531,819	555,610	522,258	503,008	480,035	497,821	507,662	480,309	488,921	491,935	6,040,283
Georgia	263,026	273,927	293,279	308,284	302,418	296,352	305,997	313,196	289,235	298,395	287,174	308,485	3,539,768
Hawaii	32,175	29,375	31,104	31,189	31,612	30,650	35,347	32,135	30,695	31,153	31,103	29,552	376,080
Idaho	34,140	34,363	35,800	34,111	41,698	36,682	37,780	47,497	47,287	45,721	43,735	40,138	478,952
Illinois	399,646	377,467	405,463	425,387	397,653	427,720	434,891	415,220	417,571	441,223	394,610	434,983	4,971,834
Indiana	206,177	195,302	223,871	244,630	265,431	171,587	267,584	283,712	219,006	230,436	221,213	231,117	2,760,066
Iowa	106,707	103,401	116,862	115,679	113,793	116,042	91,052	169,858	119,015	116,565	116,589	109,476	1,395,039
Kansas	100,259	113,150	111,395	107,658	111,398	121,145	111,887	114,247	107,564	109,173	108,884	109,992	1,326,752
Kentucky	152,429	138,864	154,639	169,276	170,082	162,181	173,588	161,311	142,827	152,206	148,803	163,602	1,889,808
Louisiana	155,174	158,304	177,914	171,264	179,631	163,772	177,049	197,131	169,740	163,955	168,942	181,903	2,064,779
Maine	51,163	45,840	49,340	47,068	55,044	55,184	61,247	69,070	59,861	58,340	54,247	51,755	658,179
Maryland	157,024	156,718	178,514	171,794	176,607	175,238	180,112	190,065	171,350	173,963	182,631	185,795	2,099,811
Massachusetts	202,127	190,783	210,261	204,375	216,322	220,334	217,431	229,382	208,058	212,350	206,049	225,099	2,542,571
Michigan	323,271	326,859	349,014	350,117	382,853	385,706	403,707	402,241	352,952	385,633	353,571	373,723	4,389,647
Minnesota	158,229	160,518	161,576	180,236	168,111	189,173	188,376	188,308	178,104	176,191	169,083	174,805	2,092,710
Mississippi	92,576	95,679	114,412	100,985	113,971	107,732	107,531	117,546	99,522	101,290	101,624	112,042	1,264,910
Missouri	212,354	198,142	240,380	237,141	234,477	240,693	253,933	237,942	228,815	233,678	226,370	236,098	2,780,023
Montana	29,322	29,669	34,609	34,791	37,243	43,623	47,942	46,338	38,034	36,883	36,253	34,038	448,745
Nebraska	56,918	57,063	65,267	63,569	67,851	78,920	69,606	73,060	67,810	70,782	66,509	64,092	801,447
Nevada	47,031	45,801	44,789	49,656	49,150	52,111	53,676	54,305	56,726	51,476	51,682	49,021	605,424
New Hampshire	41,400	39,969	41,517	40,369	43,392	47,098	47,877	50,911	44,289	44,608	41,245	44,935	527,610
New Jersey	250,306	312,988	251,300	312,517	287,682	353,257	276,269	318,477	323,413	271,785	239,548	294,307	3,491,849
New Mexico	61,033	66,089	69,938	65,710	71,265	69,104	73,006	77,990	67,559	68,525	66,573	72,026	828,818
New York	476,315	435,659	466,487	411,333	478,508	484,102	412,140	622,786	491,211	425,390	476,402	518,551	5,698,886
North Carolina	237,229	258,813	292,026	281,179	289,282	295,930	285,123	307,891	281,051	280,085	280,978	297,686	3,387,273
North Dakota	19,021	32,310	27,764	30,349	30,841	34,189	36,686	34,446	32,307	30,906	28,458	28,569	365,846
Ohio	396,332	358,859	414,493	411,952	443,007	439,656	432,824	455,525	414,837	412,263	413,066	420,593	5,013,407
Oklahoma	126,649	127,649	143,545	141,058	146,685	145,403	135,043	157,537	137,166	125,982	155,579	143,650	1,685,946
Oregon	24,416	171,151	95,791	75,400	127,328	125,221	161,097	130,518	115,382	114,545	108,093	115,889	1,364,831
Pennsylvania	357,052	348,604	386,144	386,680	413,211	407,874	412,856	421,556	386,165	402,473	398,484	445,569	4,766,668
Rhode Island	31,855	31,855	31,855	33,723	33,723	33,723	34,368	34,368	34,368	33,822	33,822	33,822	401,304
South Carolina	111,610	119,732	123,533	141,217	137,772	149,357	133,117	144,345	131,662	131,863	130,967	135,071	1,595,246
South Dakota	26,951	27,404	34,323	29,005	32,119	39,795	38,537	38,320	33,277	33,750	32,757	30,051	396,289
Tennessee	199,007	180,297	225,525	217,280	203,199	210,560	241,913	236,615	206,493	215,855	207,173	197,782	2,541,699
Texas	678,982	726,330	805,662	769,403	806,814	795,095	797,941	766,726	712,432	720,863	640,068	669,535	8,890,051
Utah	56,035	55,716	63,411	63,453	64,714	69,019	70,663	72,860	64,835	78,738	59,191	61,262	779,897
Vermont	23,009	22,047	22,975	21,127	23,502	25,146	26,824	28,504	25,379	25,281	22,457	25,040	291,291
Virginia	226,961	216,073	252,653	260,338	249,777	254,352	266,574	292,095	232,516	273,637	248,310	248,995	3,022,281
Washington	164,606	166,680	185,949	186,822	182,725	197,781	204,388	211,688	194,146	189,699	141,490	132,816	2,158,790
West Virginia	58,562	60,998	69,038	68,124	70,032	35,590	119,252	70,636	81,144	69,673	67,595	69,965	840,609
Wisconsin	155,916	163,349	133,160	168,376	212,230	191,901	187,429	192,499	177,969	181,457	173,203	179,693	2,117,182
Wyoming	20,696	20,792	22,667	23,272	27,409	32,898	35,553	33,660	29,197	27,490	23,243	21,990	318,867
U.S. Total	8,686,746	8,851,345	9,527,053	9,493,984	9,886,098	9,861,086	10,028,286	10,475,270	9,501,396	9,532,074	9,223,079	9,637,533	114,703,950

Source: Federal Highway Administration, Monthly Gasoline Reports 1988.

Gasoline Consumption by Months—1989

This table, based on Federal Highway Administration data, shows gross gallons of gasoline reported by wholesale distributors in each state. The data are taken from state taxation reports and may reflect time lags up to six weeks between the wholesale level and retail sales. The data include highway use, nonhighway use and losses.

(Add 000 gal.)

State	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Alabama	161,069	158,657	162,351	199,546	186,328	182,508	179,530	189,927	168,026	180,069	173,209	181,160	2,122,400
Alaska	15,332	15,218	19,401	17,208	18,788	28,588	23,978	30,617	19,881	17,306	12,597	20,103	239,017
Arizona	149,540	130,808	142,775	150,821	149,877	136,630	139,359	136,381	141,823	146,131	141,257	144,486	1,709,888
Arkansas	26,608	161,618	90,309	86,415	139,278	112,039	118,111	111,119	105,938	101,473	93,798	131,204	1,277,910
California	1,100,832	985,208	1,099,017	1,077,273	1,062,145	1,374,485	1,120,700	1,164,058	1,043,908	1,107,661	1,086,330	1,117,216	13,338,831
Colorado	115,521	113,007	129,112	126,069	126,155	137,673	140,835	146,872	127,097	129,520	104,684	138,904	1,535,449
Connecticut	117,175	114,338	129,237	120,705	130,440	127,712	121,534	128,111	123,849	127,119	122,923	135,101	1,498,324
Delaware	25,398	25,143	28,408	28,062	49,217	12,901	31,966	26,091	32,993	31,629	26,285	31,162	349,255
Dist. of Col.	14,231	14,368	15,793	14,942	16,709	16,206	15,408	14,892	14,476	15,594	14,796	14,909	182,672
Florida	524,060	508,553	491,675	572,743	530,893	518,529	501,847	499,300	520,171	447,460	533,775	513,546	6,162,552
Georgia	270,090	279,645	313,033	293,620	310,802	301,717	399,380	314,728	285,619	303,803	290,648	310,789	3,573,874
Hawaii	35,297	27,671	34,085	31,088	31,670	36,206	33,528	33,883	31,521	32,302	32,025	33,219	392,495
Idaho	38,583	33,461	36,068	27,052	41,960	41,803	33,968	49,836	47,072	50,532	44,360	43,069	487,764
Illinois	393,982	358,007	400,612	410,491	407,678	431,478	430,810	498,265	391,500	438,766	416,489	416,198	4,994,376
Indiana	201,357	195,907	228,632	213,548	233,008	232,821	233,100	223,142	220,189	220,189	220,189	220,189	2,642,311
Iowa	116,237	97,312	115,238	114,980	121,703	124,632	115,509	127,813	111,134	127,619	110,433	127,304	1,409,951
Kansas	98,822	94,709	115,719	103,106	111,664	116,875	107,648	115,368	103,872	108,798	108,874	113,337	1,296,792
Kentucky	114,603	172,401	142,834	163,154	148,852	150,806	168,761	166,077	152,696	155,873	154,533	160,546	1,851,136
Louisiana	169,381	155,639	184,172	174,295	169,136	171,347	172,822	188,488	142,155	181,189	161,437	170,006	2,040,067
Maine	47,796	46,463	43,781	53,040	48,167	59,738	56,254	74,437	53,018	50,306	56,692	48,597	694,543
Maryland	169,454	158,027	201,871	170,731	190,682	190,874	185,275	183,000	166,216	180,425	182,990	178,303	2,157,846
Massachusetts	195,960	184,095	210,020	198,437	217,897	219,348	216,132	225,034	208,318	224,635	197,739	223,593	2,521,208
Michigan	331,174	326,349	361,353	335,537	383,450	385,128	390,982	422,381	344,839	381,861	366,756	348,801	4,378,611
Minnesota	133,603	176,467	167,505	158,936	183,327	186,090	187,002	168,125	192,954	192,243	139,839	216,271	2,102,362
Mississippi	109,671	81,047	121,659	94,146	103,607	114,730	105,403	114,944	96,779	104,883	91,717	119,700	1,258,286
Missouri	208,272	198,832	226,492	233,040	240,546	243,377	234,357	244,310	224,427	237,319	223,913	243,498	2,758,383
Montana	30,124	26,790	35,776	33,833	38,512	44,410	45,543	47,762	40,176	37,356	34,701	37,726	452,709
Nebraska	57,086	57,933	68,864	62,495	67,742	80,510	62,105	74,059	65,061	69,245	65,743	70,272	801,115
Nevada	49,677	48,748	45,072	53,200	50,970	54,302	54,778	57,349	58,603	54,837	54,576	51,155	633,276
New Hampshire	41,172	38,798	43,081	39,620	44,428	45,546	48,153	49,718	42,752	45,912	41,761	46,358	527,295
New Jersey	320,671	261,715	264,926	326,351	240,483	347,106	321,867	299,892	236,189	286,016	284,547	289,979	3,479,752
New Mexico	43,920	82,008	67,445	69,136	69,898	72,098	72,493	68,504	68,504	70,565	67,008	68,987	820,566
New York	488,200	482,407	501,578	389,750	514,141	447,599	518,960	591,935	446,497	490,386	430,166	468,177	5,769,796
North Carolina	255,379	245,479	285,452	274,555	297,440	295,315	289,151	301,798	273,313	291,458	267,736	292,422	3,369,498
North Dakota	17,396	30,719	25,160	31,191	31,913	34,158	33,839	37,039	31,234	30,088	27,398	31,124	361,259
Ohio	401,543	361,484	407,962	399,477	425,000	436,370	422,109	455,572	404,097	395,895	429,077	412,599	4,538,586
Oklahoma	103,314	150,156	142,681	136,013	145,192	144,275	159,250	160,190	153,065	147,670	138,778	171,006	1,751,580
Oregon	62,806	123,658	101,971	117,666	117,414	83,324	163,544	131,501	118,275	100,190	129,350	118,551	1,368,250
Pennsylvania	354,652	340,422	391,628	382,904	406,684	405,491	404,032	422,378	394,107	407,037	391,228	408,440	4,710,447
Rhode Island	30,407	30,407	30,407	33,480	33,480	33,480	31,401	31,401	31,401	33,041	33,041	33,041	384,987
South Carolina	104,451	115,148	130,581	123,677	129,304	129,502	133,229	135,343	119,076	128,093	118,483	136,785	1,503,672
South Dakota	26,643	25,682	32,506	29,498	34,158	38,965	38,793	40,249	32,870	33,602	31,588	33,571	396,125
Tennessee	212,367	208,522	219,642	221,383	232,727	204,261	239,056	219,188	214,712	219,094	207,355	236,469	2,634,776
Texas	663,739	630,944	767,689	711,189	751,576	743,493	732,167	797,168	729,141	755,148	741,278	769,096	8,792,634
Utah	58,663	52,138	58,615	59,059	61,849	65,409	51,923	55,016	36,932	49,583	45,433	54,238	650,586
Vermont	23,100	21,819	23,274	20,284	24,016	24,760	26,142	27,576	20,372	25,334	23,047	24,269	283,993
Virginia	246,591	202,383	251,120	259,438	259,921	277,038	240,577	297,158	242,167	276,701	242,271	249,076	3,044,441
Washington	168,475	162,845	229,420	187,261	195,106	197,083	219,456	212,791	197,904	192,141	184,639	189,920	2,337,041
West Virginia	66,972	60,244	67,172	74,862	61,742	79,385	76,986	70,418	65,712	76,802	53,410	83,186	836,891
Wisconsin	156,234	157,231	173,518	156,379	184,486	185,409	189,702	200,579	172,536	183,287	173,975	188,632	2,122,168
Wyoming	20,947	19,133	23,432	22,011	24,960	33,669	24,025	24,025	24,025	24,025	24,025	24,025	288,303
U.S. Total	**8,888,577**	**8,749,798**	**9,600,124**	**9,383,697**	**9,797,121**	**10,157,199**	**10,020,754**	**10,405,808**	**9,291,200**	**9,720,096**	**9,347,000**	**9,890,513**	**115,251,800**

Source: Federal Highway Administration, Monthly Gasoline Reports 1989; includes some estimates by NPN for late reporting states.

Gasoline Octanes, U.S. Service Stations

Year	Season	Leaded Regular[a] Rsh.	Leaded Regular[a] Mtr.	Leaded Regular[a] (R + M)* / 2	Unleaded Regular[b] Rsh.	Unleaded Regular[b] Mtr.	Unleaded Regular[b] (R + M)* / 2	Unleaded Premium[c] Rsh.	Unleaded Premium[c] Mtr.	Unleaded Premium[c] (R + M)* / 2
1989	Summer	93.3	83.8	88.6	91.9	82.5	87.2	97.4	87.2	92.3
1988-89	Winter	93.1	83.7	88.4	91.6	82.6	87.2	97.0	87.2	92.1
1988	Summer	93.3	83.7	88.5	92.2	82.7	87.5	97.0	86.8	91.9
1987-88	Winter	93.1	84.2	88.7	91.9	82.9	87.4	96.7	87.0	91.9
1987	Summer	93.3	84.0	88.7	92.0	82.7	87.4	96.8	86.8	91.8
1986-87	Winter	93.1	84.2	88.7	91.7	82.7	87.2	96.7	86.9	91.8
1986	Summer	93.3	84.3	88.8	92.0	82.7	87.3	96.7	86.7	91.7
1985-86	Winter	93.0	84.5	88.8	91.8	82.8	87.3	96.8	86.9	91.8
1985	Summer	92.8	84.8	88.8	91.9	82.8	87.4	96.5	86.8	91.7
1984-85	Winter	92.8	85.2	89.1	91.8	82.9	87.4	96.4	86.8	91.6
1984	Summer	92.9	85.0	89.0	91.6	82.9	87.3	96.5	86.9	91.7
1983-84	Winter	92.7	84.9	88.8	91.7	82.9	87.3	96.1	86.6	91.3
1983	Summer	93.1	84.9	89.0	92.0	82.9	87.5	96.4	86.5	91.4
1982-83	Winter	92.9	85.2	89.1	91.7	82.9	87.3	96.3	86.7	91.5
1982	Summer	93.0	85.0	89.0	91.9	82.8	87.3	96.8	86.6	91.7
1981-82	Winter	92.7	81.1	88.9	91.8	82.9	87.4	96.6	86.8	91.7
1981	Summer	92.8	85.1	89.0	91.9	83.0	87.4	96.3	86.2	91.3
1980-81	Winter	92.8	85.4	89.1	91.9	83.3	87.6	96.1	86.5	91.4

(a) Below 93 octane; (b) Below 90 octane; (c) 90 octane and above; *Antiknock index.

Source: Motor Gasolines, Summer 1989, National Institute for Petroleum and Energy Research, Bartlesville, Okla., published February 1990.

Regional Octane Averages—Summer 1989[a]

	Unleaded Regular[b] Rsh.	Unleaded Regular[b] Mtr.	Unleaded Regular[b] R + M* / 2	Unleaded Midgrade[c] Rsh.	Unleaded Midgrade[c] Mtr.	Unleaded Midgrade[c] R + M* / 2	Unleaded Premium[d] Rsh.	Unleaded Premium[d] Mtr.	Unleaded Premium[d] R + M* / 2	Alcohol-blended Premium[e] Rsh.	Alcohol-blended Premium[e] Mtr.	Alcohol-blended Premium[e] R + M* / 2
Northeast	92.1	82.4	87.3	94.4	83.9	89.2	97.8	86.8	92.4	—	—	—
Mid-Atlantic Coast.....	92.1	82.3	87.2	94.4	84.0	89.2	98.0	87.1	92.6	97.7	86.5	92.1
Southeast	92.0	82.4	87.2	94.1	84.3	89.3	97.2	87.3	92.3	97.6	86.4	92.1
Florida..............	92.0	82.3	87.2	94.2	84.0	89.1	98.2	87.5	92.9	—	—	—
North Central	91.8	82.6	87.2	93.7	84.5	89.1	96.9	88.2	92.6	97.4	87.5	92.5
Ohio Valley	91.8	82.5	87.1	94.0	84.4	89.2	97.4	87.4	92.4	97.0	86.4	91.7
Central and Upper Plains	91.6	82.5	87.1	93.8	84.1	89.0	96.0	86.9	91.5	96.4	86.0	91.2
Oklahoma and East Texas.............	92.1	82.3	87.2	94.5	84.0	89.3	97.4	87.1	92.2	97.4	87.2	92.3
West Southwest	91.5	83.0	87.3	93.1	84.3	88.8	97.6	87.1	92.4	96.8	85.8	91.3
Pacific Northwest	91.5	82.7	87.1	93.6	84.0	88.8	97.3	86.9	92.1	—	—	—
North California and North Nevada	91.8	82.6	87.2	94.1	84.7	89.4	97.3	86.8	92.1	—	—	—
South California	91.9	82.5	87.2	94.2	84.4	89.3	97.3	86.7	92.0	98.0	86.6	92.3
Average	**91.9**	**82.5**	**87.2**	**94.0**	**84.2**	**89.1**	**97.4**	**87.2**	**92.3**	**97.3**	**86.6**	**91.9**

(a) Effective with this issue, leaded octane data are being dropped and a new set of figures dealing with unleaded midgrade gasoline is being added; (b) below 88 octane; (c) 88.0 to 89.9 octane; (d) 90-octane and above; (e) 90 octane and above (blended). NB: Regions were reduced from 17 to 12 by The API Products Committee in 1989.

Source: Motor Gasolines, Summer 1989, National Institute for Petroleum and Energy Research, Bartlesville, Okla., published February 1990.

Gasoline Consumption by Rank—1989

State	Rank 1989	Rank 1988	Gallonage (Add 000) 1989 (a)
California	1	1	13,338,881
Texas	2	2	8,792,634
Florida	3	3	6,162,552
New York	4	4	5,769,796
Illinois	5	6	4,994,376
Pennsylvania	6	7	4,710,447
Ohio	7	5	4,538,856
Michigan	8	8	4,378,611
Georgia	9	9	3,573,874
New Jersey	10	11	3,479,752
North Carolina	11	10	3,369,498
Virginia	12	12	3,044,441
Missouri	13	13	2,758,383
Indiana	14	14	2,642,311
Tennessee	15	15	2,634,776
Massachusetts	16	16	2,521,208
Washington	17	17	2,337,041
Maryland	18	19	2,157,848
Alabama	19	21	2,122,400
Wisconsin	20	18	2,122,168
Minnesota	21	20	2,102,362
Louisiana	22	22	2,040,067
Kentucky	23	23	1,851,136
Oklahoma	24	25	1,751,590
Arizona	25	24	1,709,888
Colorado	26	27	1,535,449
South Carolina	27	26	1,503,672
Connecticut	28	28	1,498,324
Iowa	29	29	1,409,951
Oregon	30	30	1,368,250
Kansas	31	31	1,296,792
Arkansas	32	32	1,277,910
Mississippi	33	33	1,258,286
West Virginia	34	34	836,891
New Mexico	35	36	820,566
Nebraska	36	37	801,115
Maine	37	38	694,543
Utah	38	35	650,586
Nevada	39	39	603,276
New Hampshire	40	40	527,295
Idaho	41	41	487,784
Montana	42	42	452,709
South Dakota	43	44	398,125
Hawaii	44	45	392,495
Rhode Island	45	43	384,987
North Dakota	46	46	361,259
Delaware	47	47	349,255
Wyoming	48	48	288,303
Vermont	49	49	283,993
Alaska	50	50	239,017
Dist. of Col.	—	—	182,672

(a) Preliminary with some estimates by NPN for late-reporting states.

Source: Federal Highway Administration, Monthly Gasoline Reports 1989.

Almost 90% of Gasoline is Unleaded

Unleaded gasoline sales rose another 6% in 1989, all but washing out leaded gasoline as a factor in the U.S. marketplace.

Unleaded gasoline sales hit an all-time high average of 6,500,000-b/d. This was 88.7% of total gasoline sales, meaning that unleaded gasoline demand averaged nine out of every 10 gallons sold last year.

Unleaded gasoline sales have been rising steadily through the years, exerting downward pressure on leaded grades. It is anticipated that by the mid 1990s, leaded gasoline will be virtually a specialty product hard to find in most parts of the U.S.

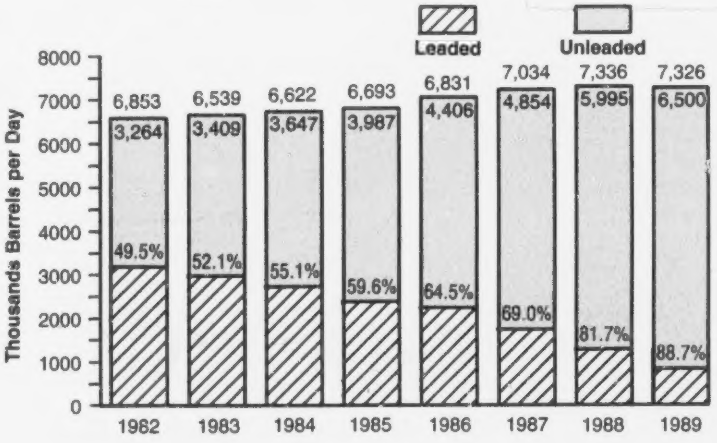
An interesting aspect of the 1989 picture was that total gasoline sales averaged 7,336,000-b/d. This is the second highest annual average in history, being exceeded only by the 1978 peak of 7,412,000-b/d. Barring any freak changes in national consumption patterns, this old 1978 record could be surpassed this year.

It is true, of course, that pump sales averaged more than 7,412,000-b/d in the summer driving months in 1989, but that was only for a limited period.

Unleaded gasoline was mandated by the federal government in 1978. When it first came on the market it was lucky to capture one out of every four gallons sold. By 1981, unleaded sales were about half the market, and by 1985 unleaded gasoline had a two-to-one edge over leaded gasoline. The gap grew wider in 1989, with unleaded gasoline now accounting for nine out of every 10 gallons sold.

These changes are being reflected in the retail markets. Many oil companies have already discontinued leaded sales and have added a mid-grade unleaded so that consumers will continue to have their choice of motor fuels.

Unleaded vs. Leaded Motor Gasoline, 1982-1989



Source: Energy Information Administration, Petroleum Supply Monthly, February, 1990

Gasohol Consumption by States—1988

This table, prepared by Federal Highway Administration, shows gross gallons of gasohol (ethanol blends) reported by the various states. The data are obtained from the state taxation reports. In states where gasohol is taxed at the same rate as gasoline, some gasohol gallonage may be commingled with gasoline data. This report indicates there was a small increase in gasohol sales in 1988.

(Add 000 gal.)

State	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Alabama	34,622	36,380	42,169	40,039	37,122	35,982	34,306	31,503	35,007	27,013	31,047	31,118	416,308
Alaska	33	44	28	24	15	16	10	10	9	10	6	10	215
Arizona	—	—	—	—	—	—	—	—	—	—	—	—	—
Arkansas	—	—	—	—	—	—	—	—	—	—	—	—	—
California	24,118	35,759	38,888	45,443	43,011	42,709	39,689	45,933	47,005	50,524	38,098	38,058	489,235
Colorado	4,537	4,689	5,781	6,743	5,659	3,978	1,627	1,772	1,230	3,067	5,642	5,982	50,707
Connecticut	—	—	—	—	—	—	—	—	—	—	—	—	—
Delaware	—	—	—	—	—	—	—	—	—	—	—	—	—
Dist. of Col.	29	35	53	52	19	26	13	63	46	29	41	40	446
Florida	7,552	5,714	4,914	5,453	5,704	7,142	6,162	6,404	6,521	5,800	7,616	7,330	76,312
Georgia	—	—	—	—	—	—	—	—	752	1,847	1,750	1,942	6,291
Hawaii	—	—	—	—	—	—	—	—	—	—	—	—	—
Idaho	2,665	2,893	2,456	2,983	3,600	3,001	3,293	3,745	4,025	4,831	5,692	5,828	45,012
Illinois	104,826	104,126	119,114	114,903	115,060	116,047	139,977	118,923	106,319	142,266	110,245	114,814	1,406,620
Indiana	42,393	50,624	42,872	47,910	47,910	47,910	57,760	57,760	57,760	66,215	66,215	66,215	651,544
Iowa	33,622	31,987	33,569	34,628	32,880	30,373	23,223	53,605	31,971	31,716	33,385	31,885	402,844
Kansas	8,364	7,900	8,777	9,624	9,969	10,069	10,146	10,512	10,054	11,202	11,303	12,843	120,763
Kentucky	75,132	54,936	61,704	50,367	37,475	56,108	130,788	38,067	38,067	38,067	38,067	38,067	656,845
Louisiana	10,620	7,774	4,972	5,779	4,729	6,167	4,684	19,960	3,512	3,034	4,454	3,950	79,635
Maine	—	—	—	—	—	—	—	—	—	—	—	—	—
Maryland	—	—	—	—	—	—	—	—	—	—	—	—	—
Massachusetts	—	—	—	—	—	—	—	—	—	—	—	—	—
Michigan	37,379	38,795	41,132	40,731	42,650	44,342	42,361	44,143	41,302	42,968	41,943	41,819	499,565
Minnesota	14,810	13,210	12,834	16,076	14,002	15,248	14,245	15,121	13,917	14,705	13,923	13,838	171,929
Mississippi	—	—	—	—	—	—	—	—	—	—	—	—	—
Missouri	—	—	—	—	—	—	—	—	—	—	—	—	—
Montana	25	110	33	3	40	—	4	13	4	—	11	14	257
Nebraska	19,572	19,360	21,048	19,595	22,438	23,733	21,680	22,518	21,294	22,876	21,916	22,043	258,073
Nevada	4,229	3,950	4,214	4,619	4,356	3,411	5,508	7,361	3,453	6,497	6,447	2,671	56,716
New Hampshire	—	—	—	—	—	—	—	—	—	—	—	—	—
New Jersey	—	—	—	—	—	—	—	—	—	—	—	—	—
New Mexico	10,066	10,014	10,985	11,576	11,723	11,574	12,552	13,346	11,366	13,973	15,109	15,372	147,656
New York	—	—	—	—	—	—	—	—	—	—	—	—	—
North Carolina	—	—	—	—	—	—	—	—	—	—	—	—	—
North Dakota	2,171	4,062	3,083	4,511	4,023	4,245	4,293	3,896	3,569	3,707	3,283	3,474	44,317
Ohio	119,612	73,300	80,914	78,937	81,398	78,924	81,710	78,705	78,332	77,501	73,320	79,221	981,874
Oklahoma	—	—	—	—	—	—	—	—	—	—	—	—	—
Oregon	—	—	—	—	—	—	—	—	—	—	—	—	—
Pennsylvania	—	—	—	—	—	—	—	—	—	—	—	—	—
Rhode Island	—	—	—	—	—	—	—	—	—	—	—	—	—
South Carolina	8,449	6,371	7,403	9,774	7,039	13,394	10,977	3,922	7,402	8,398	14,505	4,699	102,333
South Dakota	4,210	4,559	4,990	4,866	5,135	5,305	4,930	4,971	4,487	4,748	4,885	5,064	58,150
Tennessee	43,232	51,800	47,117	33,362	37,100	53,705	52,201	43,716	47,721	47,227	65,516	57,530	580,227
Texas	30,644	37,041	46,813	47,922	43,691	45,571	1,524	1,087	933	1,001	1,307	2,832	260,366
Utah	62	—	30	10	—	—	—	39	54	51	60	52	358
Vermont	—	—	—	—	—	—	—	—	—	—	—	—	—
Virginia	24,902	21,332	24,785	23,832	22,613	24,559	23,950	24,666	22,038	24,351	22,113	23,040	282,181
Washington	4,056	3,618	4,527	5,278	4,076	4,474	4,680	4,586	4,662	4,835	5,020	4,707	54,519
West Virginia	—	—	—	—	—	—	—	—	—	—	—	—	—
Wisconsin	974	1,021	1,940	903	652	5,262	1,024	319	1,212	2,282	1,467	3,119	20,175
Wyoming	5	4	5	5	5	7	7	5	5	5	5	4	62
U.S. Total	**672,911**	**631,408**	**677,150**	**665,948**	**644,094**	**693,282**	**733,324**	**656,671**	**604,029**	**660,746**	**644,391**	**637,581**	**7,921,535**

Source: Federal Highway Administration, Monthly Gasoline Reports 1988.

Gasohol Consumption by States—1989

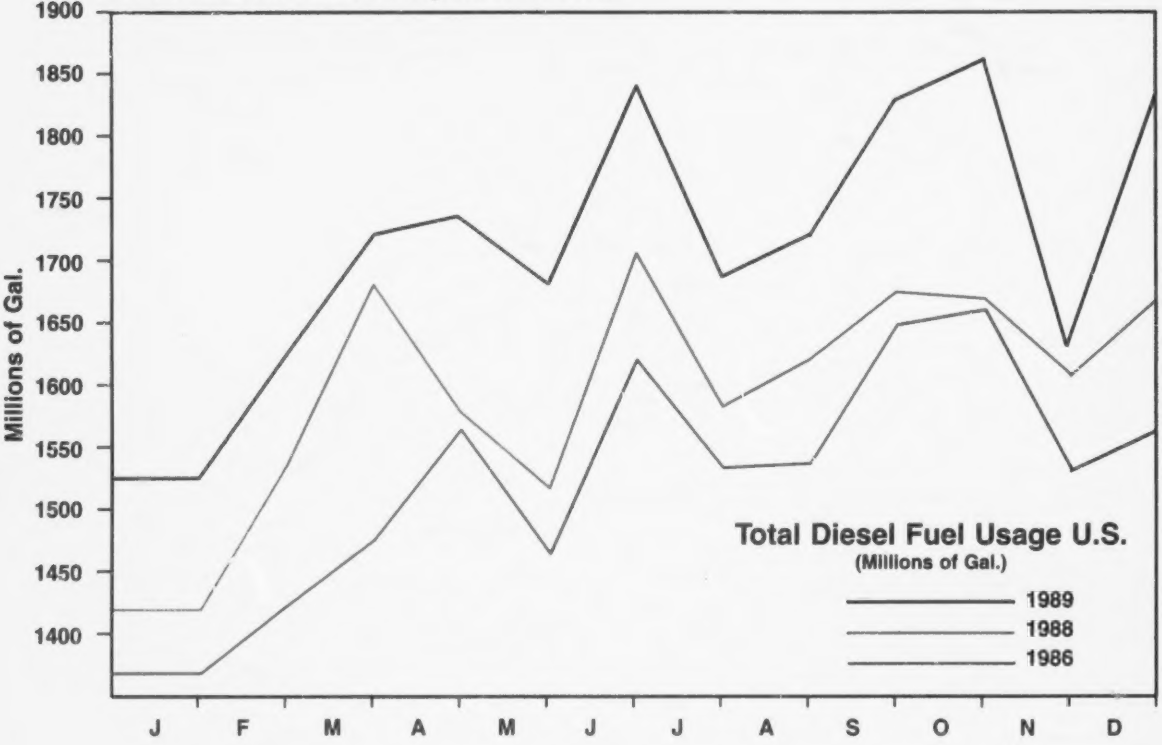
This table, prepared by Federal Highway Administration, shows gross gallons of gasohol (ethanol blends) reported by the various states. The data are obtained from the state taxation reports. In states where gasohol is taxed at the same rate as gasoline, some gasohol gallonage may be commingled with gasoline data. At any rate, this is a preliminary report and upward revisions may be expected on the basis of later data. This report indicates there was a decrease in gasohol sales in 1989.

(Add 000 gal.)

State	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Alabama	29,892	27,949	14,590	16,629	13,945	11,532	12,237	13,149	12,538	14,996	13,996	14,272	195,725
Alaska	—	9	3	—	—	—	—	—	—	—	—	—	12
Arizona	—	—	—	—	—	—	—	—	—	—	—	—	—
Arkansas	—	—	—	—	—	—	—	—	—	—	—	—	—
California	37,316	30,512	33,507	28,644	30,799	27,268	31,649	31,985	32,335	31,484	25,896	27,790	369,185
Colorado	5,024	5,613	6,338	4,695	5,377	4,613	4,106	5,763	3,135	14,699	1,822	9,337	70,522
Connecticut	—	—	—	—	—	—	—	—	—	—	—	—	—
Delaware	—	—	—	—	—	—	—	—	—	—	—	—	—
Dist. of Col.	17	30	32	30	33	38	40	22	—	45	32	14	333
Florida	7,485	6,799	6,591	8,359	7,226	7,007	6,431	5,928	5,816	5,242	5,503	6,581	78,968
Georgia	1,751	1,854	2,257	2,642	2,114	2,008	2,278	2,952	2,586	2,954	3,098	3,771	30,265
Hawaii	—	—	—	—	—	—	—	—	—	—	—	—	—
Idaho	4,069	5,561	5,263	3,520	6,377	2,275	3,841	8,424	6,814	6,084	6,288	6,314	64,830
Illinois	102,262	95,096	110,069	103,186	113,755	104,282	108,231	105,269	105,269	105,269	105,269	105,269	1,262,226
Indiana	—	—	—	—	—	—	—	—	—	—	—	—	—
Iowa	35,651	27,468	31,942	31,831	33,302	31,726	32,826	33,028	29,085	38,985	30,408	35,930	385,991
Kansas	11,249	10,714	9,889	8,965	8,462	7,584	7,044	7,232	6,567	6,634	6,657	7,589	98,586
Kentucky	38,067	36,893	42,228	39,063	32,479	28,526	33,485	31,966	33,016	32,067	31,944	24,125	403,859
Louisiana	3,303	4,252	3,506	4,192	4,034	10,525	3,245	3,384	3,787	2,870	5,633	4,430	53,161
Maine	—	—	—	—	—	—	—	—	—	—	—	—	—
Maryland	—	—	—	—	—	—	—	—	—	—	—	—	—
Massachusetts	—	—	—	—	—	—	—	—	—	—	—	—	—
Michigan	35,340	33,868	39,969	35,466	39,824	26,921	33,209	34,545	29,916	31,288	31,766	30,602	402,714
Minnesota	10,456	14,706	13,731	13,394	14,909	14,340	14,504	14,369	12,766	15,340	13,809	18,175	170,499
Mississippi	—	—	—	—	—	—	—	—	—	—	—	—	—
Missouri	—	—	—	—	—	—	—	—	—	—	—	—	—
Montana	2	—	3	16	4	17	5	1	5	9	3	—	65
Nebraska	19,720	20,230	23,387	20,465	22,971	24,628	21,939	24,133	22,174	22,734	23,763	24,938	271,082
Nevada	3,932	3,499	3,375	3,184	2,966	2,897	2,511	2,632	2,443	2,495	2,559	4,849	37,342
New Hampshire	—	—	—	—	—	—	—	—	—	—	—	—	—
New Jersey	—	—	—	—	—	—	—	—	—	—	—	—	—
New Mexico	7,871	20,580	15,242	14,475	13,669	11,921	12,699	12,134	12,134	13,563	16,175	20,634	171,297
New York	—	—	—	—	—	—	—	—	—	—	—	—	—
North Carolina	—	—	—	—	—	—	—	—	—	—	—	—	—
North Dakota	2,221	4,024	3,219	3,156	3,277	3,727	3,153	3,146	2,860	3,156	2,804	3,223	37,966
Ohio	73,350	68,756	74,637	78,398	80,773	79,020	7,712	78,894	77,746	77,451	82,825	70,887	850,649
Oklahoma	—	—	—	—	—	—	—	—	—	—	—	—	—
Oregon	—	—	—	—	—	—	—	—	—	—	—	—	—
Pennsylvania	—	—	—	—	—	—	—	—	—	—	—	—	—
Rhode Island	—	—	—	—	—	—	—	—	—	—	—	—	—
South Carolina	5,093	5,187	6,489	6,153	6,124	5,277	6,643	8,131	7,569	8,861	8,030	8,897	82,454
South Dakota	4,102	4,236	5,066	4,535	5,038	5,308	5,160	5,258	4,475	4,311	4,218	4,817	56,524
Tennessee	27,245	37,367	40,288	46,147	36,210	27,964	19,576	18,802	17,870	8,008	9,100	10,500	299,077
Texas	41,607	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	20,000	20,000	216,607
Utah	69	35	60	43	—	48	—	41	50	42	42	39	469
Vermont	—	—	—	—	—	—	—	—	—	—	—	—	—
Virginia	22,352	18,211	21,654	21,077	19,920	24,139	20,742	20,904	19,446	21,044	20,115	22,189	251,793
Washington	3,945	4,420	5,423	5,301	5,118	5,405	5,180	5,417	5,256	5,008	5,512	—	55,985
West Virginia	—	—	—	—	—	—	—	—	—	—	—	—	—
Wisconsin	3,773	3,256	4,313	2,436	3,217	3,646	3,615	6,326	2,075	5,291	3,974	5,698	47,620
Wyoming	7	5	6	6	5	5	6	6	6	6	6	6	64
U.S. Total	**537,980**	**506,130**	**538,077**	**521,008**	**526,928**	**487,647**	**417,061**	**498,841**	**427,739**	**487,936**	**478,688**	**499,246**	**5,972,381**

Source: Federal Highway Administration, Monthly Gasoline Reports, 1989.

Diesel Fuel Consumption Trends



Diesel Fuel Consumption by States—1989

	Rank		Gallonage		%
	1989	1988	1989(a)	1988	Change
Alabama	14	18	545,810	486,519	12.2%
Alaska	42	44	97,588	84,306	15.8
Arizona	27	28	318,396	303,840	4.8
Arkansas	19	22	407,964	351,798	16.0
California	1	1	1,944,331	1,872,726	3.8
Colorado	35	34	187,715	172,029	9.1
Connecticut	31	32	211,997	215,445	(2.3)
Delaware	45	46	74,996	56,125	33.6
Dist. of Col.	—	—	23,337	23,329	—
Florida	5	6	881,499	833,522	5.6
Georgia	6	5	847,733	841,982	0.6
Hawaii	49	49	24,055	22,999	4.6
Idaho	40	41	118,634	100,908	17.6
Illinois	7	7	846,979	783,017	8.2
Indiana	8	8	725,995	636,734	14.0
Iowa	24	23	354,022	339,940	4.1
Kansas	29	26	295,631	302,643	(2.3)
Kentucky	9	15	673,521	513,689	31.7
Louisiana	21	20	386,915	387,981	(0.3)
Maine	34	35	201,587	133,183	51.4
Maryland	23	29	355,307	303,374	17.1
Massachusetts	30	30	273,086	294,131	(7.2)
Michigan	16	13	535,470	532,806	0.5
Minnesota	25	24	326,182	335,968	(2.9)
Mississippi	25	25	321,190	322,838	(0.5)
Missouri	11	12	649,277	542,311	19.7
Montana	41	39	112,670	117,390	(3.4)
Nebraska	32	31	210,723	219,806	(4.1)
Nevada	38	40	132,607	119,540	10.8
New Hampshire	46	45	60,266	58,798	2.5
New Jersey	18	16	420,441	480,544	(12.7)
New Mexico	33	33	208,354	207,368	0.5
New York	10	14	661,083	705,034	(6.2)
North Carolina	12	9	621,760	620,894	—
North Dakota	44	43	93,429	92,209	0.1
Ohio	4	4	926,944	872,509	6.2
Oklahoma	20	19	397,978	398,037	—
Oregon	(b)	(b)	(b)	308,276	—
Pennsylvania	3	3	934,169	940,114	(0.6)
Rhode Island	47	48	53,559	44,304	20.1
South Carolina	28	27	306,197	314,357	(2.5)
South Dakota	43	42	93,765	95,672	(2.0)
Tennessee	13	11	590,169	582,701	1.3
Texas	2	2	1,381,100	1,312,739	5.2
Utah	39	37	131,426	151,026	(13.2)
Vermont	48	47	46,798	54,612	(12.7)
Virginia	15	10	543,933	539,702	0.8
Washington	22	21	382,586	355,556	7.7
West Virginia	37	38	162,084	162,261	—
Wisconsin	17	17	455,089	424,294	7.3
Wyoming	36	36	179,142	174,085	2.9
U.S. Total			**20,774,065**	**20,053,051**	**3.6**

(a) Preliminary and includes some estimates by NPN for late-reporting states; (b) Oregon discontinued collecting diesel fuel data after 1987.

Source: Federal Highway Administration, Monthly Gasoline Reports—1989.

Highway Diesel Sales by States—1988

Diesel Sales for motor vehicles—passenger cars, trucks and buses—climbed another 10.3% in 1988, continuing the upward swing of recent years. On-highway consumption amounted to 20-billion gal., compared with 18.1-billion gal. in 1987.

Off-highway sales—primarily for construction equipment and farms but occasionally including utilities for power generation—rose 5.2% in 1988, continuing the impressive increase of 1987.

(Add 000 gal.)

	On-Highway			Off-Highway		
	1988	1987	% Change	1988	1987	% Change
PAD District 1						
New England States						
Connecticut	212,589	188,172	12.9%	12,010	11,894	1.0%
Maine	175,344	157,344	11.4	20,028	13,662	46.6
Massachusetts	293,007	282,982	3.5	17,627	14,873	18.5
New Hampshire	58,051	54,975	5.6	6,110	9,256	(34.0)
Rhode Island	43,741	55,520	(21.2)	999	1,085	(7.9)
Vermont	53,918	50,607	6.5	7,404	4,544	62.9
Central Atlantic States						
Delaware	55,412	58,756	(5.7)	3,384	2,948	14.8
District of Columbia	23,033	21,822	5.5	81	165	(50.9)
Maryland	299,521	289,433	3.5	15,272	17,940	(14.9)
New Jersey	477,858	446,805	7.0	28,363	22,854	24.1
New York	713,826	633,543	12.7	41,963	41,920	0.1
Pennsylvania	928,175	868,650	6.9	45,595	38,908	17.2
Lower Atlantic States						
Florida	832,093	654,444	27.1	56,154	71,958	(22.0)
Georgia	831,267	772,080	7.7	35,397	33,482	5.7
North Carolina	711,035	580,195	22.6	28,443	32,484	(12.4)
South Carolina	310,365	282,618	9.8	24,928	16,671	49.5
Virginia	532,848	501,785	6.2	53,024	28,440	86.4
West Virginia	160,141	150,200	6.6	18,285	20,510	(10.8)
Total	**6,712,224**	**6,049,931**	**10.9**	**415,066**	**383,592**	**8.2**
PAD District 2						
Illinois	771,386	724,982	6.4	56,630	59,567	(4.9)
Indiana	628,647	698,704	(10.0)	17,954	13,395	34.0
Iowa	333,931	322,226	3.6	17,335	13,173	31.6
Kansas	331,926	351,717	(5.6)	17,127	21,062	(18.7)
Kentucky	512,517	356,046	43.9	21,276	21,543	(1.2)
Michigan	526,217	511,402	2.9	49,716	45,303	9.7
Minnesota	331,701	313,255	5.9	23,638	17,221	37.3
Missouri	535,424	487,063	9.9	37,120	33,224	11.7
Nebraska	217,014	201,094	7.9	18,094	17,881	1.2
North Dakota	89,873	88,184	1.9	5,470	5,562	(1.6)
Ohio	861,428	751,521	14.6	27,752	28,130	(1.3)
Oklahoma	394,165	383,820	2.7	28,108	29,677	(5.3)
South Dakota	91,906	89,852	2.3	11,684	11,838	(1.3)
Tennessee	578,829	562,038	3.0	59,940	63,348	(5.4)
Wisconsin	440,836	384,232	14.7	22,398	22,425	(0.1)
Total	**6,645,800**	**6,226,136**	**6.7**	**414,244**	**403,348**	**2.7**
PAD District 3						
Alabama	480,340	404,744	18.7	53,110	49,742	6.8
Arkansas	346,026	322,040	7.4	30,943	31,618	(2.1)
Louisiana	383,054	344,059	11.3	74,854	66,459	12.6
Mississippi	302,361	289,999	4.3	33,755	41,235	(18.1)
New Mexico	204,734	189,499	8.0	35,167	22,965	53.1
Texas	1,296,067	1,319,054	(1.7)	277,203	232,075	19.4
Total	**3,012,582**	**2,869,395**	**5.0**	**505,034**	**444,094**	**13.7**
PAD District 4						
Colorado	188,922	184,224	2.6	43,198	28,248	52.9
Idaho	99,626	102,878	(3.2)	17,004	18,379	(7.5)
Montana	115,899	106,998	8.3	11,171	12,565	(11.1)
Utah	149,108	104,894	42.2	21,284	16,630	28.0
Wyoming	171,874	181,974	(5.6)	22,388	22,860	(2.1)
Total	**725,429**	**716,968**	**1.2**	**115,045**	**98,662**	**16.6**
PAD District 5						
Alaska	83,235	61,624	35.1	13,855	25,802	(46.3)
Arizona	299,981	269,026	11.5	25,285	35,506	(28.8)
California	1,760,085	1,256,749	40.1	208,735	201,486	3.6
Hawaii	21,935	20,219	8.5	7,227	4,288	68.5
Nevada	118,022	119,411	(1.2)	32,792	25,818	27.0
Oregon	302,381	269,015	12.4	43,412	50,498	(14.0)
Washington	357,017	314,460	13.5	41,125	58,938	(30.2)
Total	**2,942,656**	**2,310,504**	**27.4**	**372,431**	**402,390**	**(7.4)**
U.S. Total	**20,038,691**	**18,172,934**	**10.3%**	**1,821,819**	**1,732,106**	**5.2%**

Source: Energy Information Administration, Petroleum Marketing Monthly, June 1989.

Diesel Fuel Consumption by States—1988

The table below, prepared by the Federal Highway Administration, shows gross gallons of special fuels, but this is primarily diesel fuel. Included are small amounts of liquefied petroleum gases. In most cases, FHA says, the data reflect retail sales for the year.

(Add 000 gal.)

State	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Alabama	39,806	41,018	34,232	44,355	43,260	33,303	41,462	43,781	36,151	45,076	45,895	38,180	486,519
Alaska	3,952	2,455	8,181	6,719	6,316	14,003	11,478	10,352	9,385	5,891	1,892	3,682	84,306
Arizona	23,744	26,456	29,754	26,283	20,529	30,889	26,043	21,186	26,713	20,280	13,262	38,701	303,840
Arkansas	11,643	41,386	26,337	26,960	35,447	30,419	25,939	31,245	30,947	27,737	25,433	36,305	351,798
California	139,700	139,700	139,700	142,117	142,117	142,117	151,639	151,639	151,639	160,786	160,786	160,786	1,782,726
Colorado	12,599	12,571	18,828	13,848	14,582	20,187	14,809	15,251	20,383	14,689	14,282	—	172,029
Connecticut	16,783	18,796	18,830	16,320	17,454	19,577	17,351	20,412	16,342	16,925	16,925	19,730	215,445
Delaware	4,767	5,747	3,660	5,416	5,217	3,495	4,287	5,644	3,316	4,948	5,675	3,953	56,125
Dist. of Col.	1,562	2,091	2,307	1,797	1,976	2,032	1,952	2,376	1,630	1,860	1,794	1,932	23,329
Florida	67,878	67,928	69,798	76,284	71,497	70,934	68,344	65,131	67,730	64,758	71,869	71,371	833,522
Georgia	72,748	56,810	77,589	53,715	64,669	78,013	65,543	71,945	72,024	74,793	84,654	69,479	841,982
Hawaii	2,170	1,566	1,683	2,129	1,841	1,765	2,238	1,746	1,917	2,238	1,709	1,988	22,999
Idaho	8,269	13,300	5,189	9,966	10,669	115	8,769	14,308	4,260	10,545	13,513	2,005	100,908
Illinois	61,852	58,419	62,752	67,356	62,965	67,726	68,861	65,746	66,119	69,863	62,483	68,875	783,017
Indiana	18,943	44,999	49,744	65,342	51,492	71,174	57,960	45,921	50,271	53,545	61,756	65,587	636,734
Iowa	29,312	19,954	35,058	29,128	27,788	31,421	20,784	34,795	32,932	29,627	27,856	21,285	339,940
Kansas	19,366	26,337	22,206	23,846	23,841	29,897	28,565	26,349	24,894	25,537	26,880	24,923	302,643
Kentucky	27,231	29,651	36,038	29,583	35,389	38,202	29,117	56,931	63,671	57,699	56,499	51,958	513,969
Louisiana	27,462	27,341	37,469	29,471	31,107	36,804	32,880	30,111	36,278	32,125	30,596	36,337	387,981
Maine	12,965	12,834	7,451	11,829	12,421	6,765	12,215	11,923	9,848	13,552	11,117	10,243	133,183
Maryland	20,044	24,612	27,718	23,565	24,086	28,028	26,030	26,524	26,034	24,826	27,063	24,844	303,374
Massachusetts	25,250	19,732	21,593	29,000	23,814	29,555	22,403	21,803	23,063	27,488	20,191	30,239	294,131
Michigan	34,746	33,376	49,948	46,328	35,535	56,032	39,071	37,222	62,062	41,002	36,935	60,549	532,806
Minnesota	25,688	25,619	28,961	29,541	25,430	29,749	28,703	27,455	29,394	29,837	28,748	26,843	335,968
Mississippi	27,108	22,857	27,784	28,826	23,048	26,789	30,170	25,452	26,811	33,041	23,528	27,424	322,838
Missouri	43,113	32,804	49,763	40,211	39,851	53,531	37,220	39,860	53,723	47,914	43,623	60,698	542,311
Montana	11,125	7,967	7,426	13,536	6,329	7,818	13,396	9,046	9,557	13,459	7,279	10,452	117,390
Nebraska	14,355	15,307	21,273	15,485	18,466	22,173	15,513	18,551	22,838	18,123	19,396	17,326	219,806
Nevada	7,784	18,206	7,592	7,136	18,909	4,524	8,032	3,279	8,442	9,402	11,867	14,367	119,540
New Hampshire	6,807	2,433	5,467	6,131	3,679	6,533	7,331	3,349	4 ,644	6,704	3,049	2,671	58,798
New Jersey	44,129	33,503	37,779	41,051	38,392	48,765	37,411	39,015	45,961	39,446	37,310	37,782	480,544
New Mexico	29,309	14,841	4,238	34,474	15,260	5,957	41,707	8,684	2,413	45,144	4,739	602	207,368
New York	38,865	43,350	43,834	42,160	47,769	44,226	39,275	49,217	172,466	67,250	70,544	46,078	705,034
North Carolina	46,637	40,775	55,902	49,252	51,241	60,531	40,810	56,224	55,175	49,388	56,458	58,501	620,894
North Dakota	5,254	6,663	7,045	7,671	7,632	6,865	8,047	7,495	9,336	9,334	7,359	7,483	92,209
Ohio	67,632	65,909	87,030	68,776	71,587	71,845	66,152	72,424	73,915	78,262	74,606	74,169	872,500
Oklahoma	28,790	27,675	39,695	28,545	31,831	39,265	31,193	31,061	38,900	33,254	31,655	36,173	398,037
Oregon	25,523	25,523	25,523	25,523	25,523	25,523	25,523	25,523	25,523	25,523	25,523	25,523	306,276
Pennsylvania	71,928	75,682	82,515	77,143	77,658	82,069	74,589	82,617	80,157	83,717	78,740	73,299	940,114
Rhode Island	3,461	3,461	3,461	3,864	3,864	3,864	3,740	3,740	3,740	3,703	3,703	3,703	44,304
South Carolina	20,655	18,909	43,234	15,813	20,303	32,340	28,080	25,596	28,778	26,293	20,630	33,724	314,367
South Dakota	7,690	7,411	7,518	6,746	7,713	7,782	8,375	9,206	9,071	10,310	7,225	6,625	95,672
Tennessee	39,068	39,525	53,682	47,022	45,481	60,448	43,331	45,052	58,649	44,317	43,364	61,762	581,701
Texas	85,728	103,731	125,647	103,094	90,510	127,536	104,681	111,802	121,950	106,227	108,372	123,463	1,312,739
Utah	6,678	21,415	6,788	6,723	24,031	9,563	3,014	24,991	7,239	6,559	28,364	5,661	151,026
Vermont	3,509	7,154	2,510	2,613	6,770	3,264	3,264	7,857	2,411	2,709	9,332	3,219	54,612
Virginia	39,078	39,080	48,340	45,702	42,251	49,768	42,766	50,535	42,731	49,349	46,847	43,255	539,702
Washington	32,295	34,028	26,065	22,701	37,691	29,314	32,581	31,373	23,301	28,149	27,774	30,084	355,356
West Virginia	9,379	13,189	12,677	12,269	14,003	4,481	22,575	16,163	12,241	15,040	15,992	14,052	162,261
Wisconsin	34,399	34,863	71,586	33,801	3,991	39,239	35,410	36,556	39,276	40,309	37,337	15,505	424,294
Wyoming	11,462	26,737	12,634	12,986	13,272	12,949	13,675	14,897	15,160	14,876	13,083	12,354	174,065
U.S. Total	1,470,288	1,535,741	1,736,238	1,610,152	1,576,497	1,761,164	1,624,304	1,692,363	1,861,411	1,763,429	1,705,714	1,715,750	20,053,051

Source: Federal Highway Administration, Monthly Gasoline Reports, 1988.

Diesel Fuel Consumption by States—1989

The table below, prepared by the Federal Highway Administration, shows gross gallons of special fuels, but this is primarily diesel fuel. Included are small amounts of liquefied petroleum gases. In most cases, FHA says, the data reflect retail sales. This is a preliminary report for 1989 and includes some estimates by NPN to offset late reporting by some states.

(Add 000 gal.)

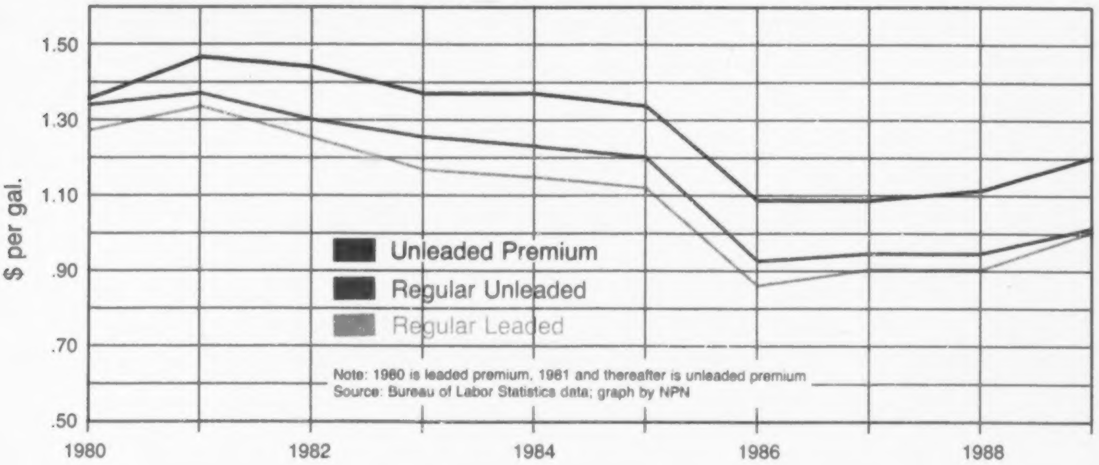
State	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Alabama	63,470	31,569	27,244	66,113	35,273	45,158	52,996	38,906	46,222	55,735	39,059	44,065	545.810
Alaska	3,294	4,000	4,179	5,485	10,310	4,838	8,278	32,374	14,693	10,028	4,229	10,436	97,586
Arizona	25,852	19,706	23,173	35,077	22,587	27,251	27,025	29,184	26,510	26,647	25,729	29,655	318,396
Arkansas	16,162	52,374	20,015	36,952	35,863	32,603	36,699	32,273	31,453	44,134	32,070	37,186	407,964
California	138,838	138,838	138,838	133,375	150,437	165,354	149,977	174,795	202,993	155,090	157,938	237,658	1,944,331
Colorado	11,991	11,452	15,365	13,897	13,279	17,587	15,718	16,785	20,382	17,897	16,376	16,986	187,715
Connecticut	14,563	13.019	18,483	16,732	17,146	18,061	18,155	19,867	18,966	18,808	18,666	19,511	211,997
Delaware	5,666	11,991	4,263	5,547	7,077	4,522	6,067	6,219	6,219	6,616	6,533	4,246	74,966
Dist. of Col.	1,731	1,815	1,913	1,977	1,922	2,047	2,063	2,020	2,062	1,922	1,891	1,974	23,337
Florida	76,024	74,742	73,131	79,808	74,477	77,709	72,528	65,602	74,431	65,488	74,101	73,458	881,449
Georgia	75,959	68,285	71,136	74,124	66,751	75,784	62,869	75,784	63,067	81,407	65,306	67,281	847,733
Hawaii	1,731	1,545	1,977	2,060	1,808	2,179	2,821	1,872	1,853	2,413	1,918	1,678	24,055
Idaho	13,741	13,043	6,080	8,362	13,320	4,876	6,570	18,415	6,074	10,335	15,644	2,174	116,534
Illinois	66,820	60,719	67,945	69,620	69,143	73,180	73,066	64,507	66,399	74,416	70,582	70,582	846,979
Indiana	40,044	62,135	82,125	56,538	54,328	93,973	55,845	33,009	60,500	60,500	60,500	60,500	725,995
Iowa	27,443	26,112	32,446	29,314	28,627	32,127	27,029	28,391	31,412	31,455	27,584	32,101	354,022
Kansas	17,840	34,093	20,423	32,155	27,442	24,793	29,537	25,196	28,682	20,508	14,779	19,913	295,631
Kentucky	29,874	65,312	54,003	61,646	58,009	56,903	53,653	59,602	58,361	59,405	53,501	53,252	673,521
Louisiana	28,520	26,845	28,981	39,331	31,093	38,007	32,297	31,923	36,806	32,111	28,756	32,243	386,915
Maine	16,928	16,361	13,006	16,393	12,493	10,223	16,778	13,527	14,508	16,668	20,208	13,695	201,587
Maryland	23,861	18,886	26,650	22,296	26,992	28,007	24,660	28,818	24,006	25,528	25,508	38,110	355,307
Massachusetts	17,921	25,327	17,143	23,996	25,808	25,930	21,015	23,563	23,002	21,966	24,178	23,027	273,086
Michigan	25,974	37,760	45,861	51,230	34,783	66,248	39,746	33,752	67,665	35,635	36,123	60,691	535,470
Minnesota	18,799	30,228	25,942	26,047	28,854	29,282	28,306	25,541	30,534	34,345	26,597	21,767	326,162
Mississippi	21,389	20,033	26,647	33,380	22,746	27,667	30,190	26,572	28,159	34,349	22,264	27,794	321,190
Missouri	54,692	41,305	66,742	49,686	41,411	69,616	48,123	40,346	65,122	64,641	56,205	51,386	649,277
Montana	11,726	7,266	8,586	11,272	7,295	11,779	12,273	7,167	12,835	13,082	7,392	9,389	112,670
Nebraska	13,436	14,992	20,073	15,349	19,215	19,564	13,950	21,078	18,635	16,936	19,190	18,305	210,723
Nevada	7,152	7,889	17,777	6,563	10,483	14,402	8,726	12,318	14,376	9,760	14,837	8,304	132,607
New Hampshire	6,860	6,104	5,068	6,039	3,428	5,231	5,542	3,772	4,678	5,917	4,079	3,552	60,268
New Jersey	37,761	31,950	40,364	34,949	36,031	38,554	32,454	34,814	31,341	32,404	31,817	35,035	420,421
New Mexico	39,330	12,187	1,679	29,922	21,364	714	47,012	877	877	44,811	8,728	855	208,364
New York	16,066	58,303	78,538	52,138	58,884	66,056	59,742	59,181	61,493	58,265	30,055	63,352	661,083
North Carolina	35,122	54,136	57,269	44,100	58,141	59,464	45,143	52,745	55,453	57,949	47,371	58,867	621,760
North Dakota	5,255	7,401	6,367	8,020	7,149	9,640	7,890	7,495	8,951	9,890	7,402	7,969	93,429
Ohio	70,526	71,052	73,646	68,687	77,133	76,232	64,093	87,446	72,566	84,668	103,650	77,245	926,944
Oklahoma	36,046	31,134	35,168	35,245	31,845	32,513	35,144	31,074	31,814	35,457	26,069	36,450	397,976
Oregon (a)	—	—	—	—	—	—	—	—	—	—	—	—	—
Pennsylvania	76,572	73,006	81,712	78,687	81,076	74,738	74,927	85,353	66,137	85,135	—	75,916	934,169
Rhode Island	4,683	4,683	4,683	4,645	4,645	4,645	4,715	4,715	4,715	3,810	3,810	3,810	53,559
South Carolina	23,636	19,529	24,315	29,416	21,269	30,085	25,954	23,987	24,927	29,239	19,416	34,424	306,197
South Dakota	8,755	7,465	7,251	7,102	7,407	7,331	7,538	8,369	8,056	8,002	8,224	8,265	93,765
Tennessee	34,558	47,587	60,927	48,765	49,334	46,390	44,167	50,080	55,926	54,884	41,041	56,530	590,169
Texas	97,504	109,942	131,080	113,707	102,457	136,965	115,461	112,149	128,787	125,647	108,992	114,723	1,381,100
Utah	15,899	6,311	6,311	6,402	22,200	8,387	2,801	7,459	8,158	29,997	6,549	10,592	131,426
Vermont	2,360	7,423	2,765	1,654	7,096	1,906	1,561	7,319	2,842	1,586	4,079	6,336	46,798
Virginia	45,036	38,433	46,117	47,098	43,653	53,404	41,186	51,139	42,821	49,812	41,031	44,123	543,933
Washington	36,107	39,295	18,699	30,798	34,567	24,876	28,158	14,748	49,873	23,753	36,056	43,647	382,586
West Virginia	17,166	10,645	16,431	11,354	10,907	12,557	13,018	11,391	14,005	20,306	11,521	12,783	162,084
Wisconsin	35,482	34,902	39,112	35,191	38,494	39,058	35,366	40,010	38,705	41,745	39,124	37,900	455,069
Wyoming	12,385	16,082	13,448	19,593	13,604	14,860	14,995	14,995	14,995	14,995	14,995	14,995	179,942
U.S. Total	**1,529,852**	**1,625,212**	**1,738,291**	**1,739,852**	**1,679,652**	**1,856,663**	**1,691,889**	**1,718,514**	**1,834,386**	**1,858,415**	**1,635,790**	**1,841,550**	**20,774,065**

(a) Oregon no longer collects diesel data.

Source: Federal Highway Administration, Monthly Gasoline Reports, 1989.

Average Pump Prices for Gasoline 1980-1989

($ per gal. including taxes and reflecting full-service, etc.)



Note: 1980 is leaded premium, 1981 and thereafter is unleaded premium
Source: Bureau of Labor Statistics data; graph by NPN

Gasoline Prices by Grades and Months

(U.S. averages, retail, in ¢ per gal. including taxes and types of service.)

		Leaded Regular	Unleaded Regular	Unleaded Premium (a)	Average for All Types
1989	January	87.6	91.8	109.1	94.4
	February	88.6	92.6	110.0	95.5
	March	90.7	94.0	111.5	97.4
	April	104.7	106.5	122.1	109.8
	May	109.8	111.9	127.8	115.2
	June	109.3	111.4	127.8	115.0
	July	107.5	109.2	126.4	113.2
	August	103.4	105.7	123.3	109.6
	September	100.7	102.9	121.3	107.3
	October	100.1	102.7	120.9	107.1
	November	97.5	99.9	118.7	104.6
	December	96.1	98.0	117.8	103.0
	Average	**99.7**	**102.2**	**119.7**	**106.0**
1988	January	88.1	93.3	109.5	94.7
	February	85.9	91.3	108.2	92.8
	March	85.0	90.4	107.4	92.0
	April	88.3	93.0	108.8	94.6
	May	91.1	95.5	110.5	97.0
	June	91.0	95.5	111.1	97.1
	July	92.3	96.7	112.3	98.4
	August	94.5	98.7	113.8	100.4
	September	93.3	97.4	113.0	99.2
	October	91.0	95.6	111.9	97.5
	November	90.4	94.9	111.6	97.2
	December	88.5	93.0	110.1	95.3
	Average	**90.0**	**94.6**	**110.7**	**96.4**
1987	January	80.6	86.2	100.7	86.8
	February	84.8	90.5	104.7	91.1
	March	85.6	91.2	105.2	91.8
	April	87.9	93.4	107.3	94.0
	May	88.8	94.1	107.9	94.8
	June	90.6	95.8	109.8	96.6
	July	92.1	97.1	111.5	98.0
	August	94.6	99.5	113.9	100.4
	September	94.0	99.0	113.6	100.0
	October	93.1	97.6	112.8	98.8
	November	92.8	97.6	112.5	98.7
	December	91.2	96.1	111.9	97.5
	Average	**89.7**	**94.8**	**109.3**	**95.7**
Average	1986	85.7	92.7	108.5	93.1
	1985	111.5	120.2	134.0	119.6
	1984	112.9	121.2	136.6(a)	119.8
	1983	115.7	124.1	138.3(a)	122.5
	1982	122.2	129.6	141.5(a)	128.1
	1981 (b)	131.1	137.8	147.0(a)	135.3
	1980	119.1	124.5	NA	122.1
	1978	62.6	67.0	NA	65.2

(a) In January 1984, this series was switched from leaded premium to unleaded premium to reflect changing market conditions.

(b) Data for 1981 and earlier are for leaded premium. Beginning in September 1981, Bureau of Labor Statistics changed the weights used in the calculation of average motor gasoline prices. In the fourth column above, gasohol is included and unleaded premium is weighted more heavily.

Source: Energy Information Administration, Monthly Energy Review, October 1989.

Retail Gasoline Prices by Months and Grades

All Types

Selected Local Areas	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average For Year
Chicago-N'Western Ind.	$1.012	$1.020	$1.027	$1.178	$1.239	$1.228	$1.206	$1.172	$1.165	$1.183	$1.159	$1.136	$1.143
L.A.-Long Beach, Anaheim.	.864	.881	.945	1.152	1.167	1.153	1.111	1.048	.983	.970	.930	.918	1.010
N.Y., N.Y.-N'Eastern N.J.	1.036	1.047	1.055	1.106	1.174	1.187	1.178	1.152	1.117	1.114	1.109	1.100	1.114
Philadelphia, Pa.-N.J.	.959	.966	.976	1.047	1.131	1.142	1.144	1.093	1.093	1.100	1.087	1.083	1.068
San Francisco-Oakland	.943	.950	.989	1.153	1.202	1.201	1.177	1.155	1.082	1.064	1.044	1.028	1.082
Baltimore, Md.	1.030	1.034	1.035	1.084	1.143	1.151	1.143	1.138	1.128	1.117	1.114	1.112	1.102
Boston, Mass.	1.020	1.013	1.012	1.043	1.107	1.125	1.114	1.108	1.103	1.103	1.102	1.097	1.078
Cleveland, Ohio	.942	.968	.985	1.144	1.181	1.151	1.118	1.091	1.070	1.097	1.052	1.027	1.068
Miami, Fla.	1.019	1.018	1.013	1.056	1.135	1.140	1.107	1.074	1.039	1.032	1.018	1.012	1.055
St. Louis, Mo.-Ill.	.862	.896	.806	1.019	1.101	1.092	1.071	1.015	.983	.985	.974	.955	.988
Washington,-Md.-Va.	1.118	1.119	1.121	1.158	1.217	1.232	1.235	1.220	1.204	1.196	1.202	1.203	1.185
Dallas-Fort Worth, Tex.	.876	.871	.873	.961	1.050	1.045	1.027	.996	.968	.968	.957	.947	.963
Detroit, Mich.	.950	.951	.953	1.109	1.134	1.123	1.093	1.030	1.025	1.036	1.011	.985	1.033
Houston, Tex.	.913	.916	.919	1.011	1.060	1.065	1.059	1.038	1.025	1.012	1.011	1.006	1.002
Pittsburgh, Pa.	.935	.930	.925	1.040	1.104	1.111	1.065	1.017	.978	.976	.950	.946	.998

Leaded Regular

Chicago-N'Western Ind.	.926	.900	.934	1.121	1.171	NA	NA	NA	NA	NA	NA	NA	1.010
L.A.-Long Beach, Anaheim.	.830	.844	.904	1.107	1.115	1.102	1.062	1.000	.944	.929	.904	.889	.969
N.Y., N.Y.-N'Eastern N.J.	.912	.909	.945	.985	1.061	1.091	1.069	1.060	NA	NA	NA	NA	1.004
Philadelphia-N.J.	.935	.950	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	.942
San Francisco-Oakland	.827	.841	.876	1.071	1.108	1.107	1.068	1.044	.974	.952	.931	.920	.976
Baltimore, Md.	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boston, Mass.	.972	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	.972
Cleveland, Ohio	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Miami, Fla.	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
St. Louis, Mo.-Ill.	.824	.833	.826	.975	1.051	1.034	1.022	.973	.957	.950	.954	.940	.945
Washington-Md.-Va.	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dallas-Fort Worth, Tex.	.854	.846	.847	.969	1.039	1.027	1.015	.987	.971	.975	.968	.964	.955
Detroit, Mich.	.899	.900	.906	1.087	NA	NA	NA	NA	NA	NA	NA	NA	.948
Houston, Tex.	.827	.833	.839	.973	NA	NA	NA	NA	NA	NA	NA	NA	.868
Pittsburgh, Pa.	.949	.941	.936	1.056	NA	NA	NA	NA	NA	NA	NA	NA	.970

Unleaded Regular

Chicago-N'Western Ind.	.980	.993	.995	1.147	1.208	1.196	1.170	1.131	1.121	1.141	1.116	1.091	1.107
L.A.-Long Beach, Anaheim.	.834	.854	.923	1.139	1.154	1.140	1.093	1.027	.952	.941	.893	.881	.986
N.Y., N.Y.-N'Eastern N.J.	.967	.975	.983	1.037	1.100	1.111	1.103	1.077	1.036	1.037	1.026	1.017	1.039
Philadelphia-N.J.	.910	.915	.900	.955	1.044	1.050	1.046	1.010	.992	.992	.974	.964	.979
San Francisco-Oakland	.943	.948	.993	1.134	1.195	1.199	1.177	1.154	1.073	1.058	1.041	1.024	1.078
Baltimore, Md.	.976	.978	.979	1.028	1.085	1.094	1.086	1.075	1.066	1.049	1.043	1.040	1.041
Boston, Mass.	.971	.965	.965	1.003	1.070	1.081	1.070	1.064	1.040	1.037	1.035	1.028	1.027
Cleveland, Ohio	.888	.916	.935	1.097	1.132	1.102	1.065	1.037	1.024	1.046	1.003	.979	1.018
Miami, Fla.	.966	.967	.962	1.006	1.075	1.078	1.038	1.002	.974	.968	.958	.950	.995
St. Louis, Mo.-Ill.	.859	.876	.863	.996	1.080	1.072	1.043	.979	.944	.946	.931	.909	.958
Washington-Md.-Va.	1.051	1.053	1.048	1.086	1.146	1.157	1.158	1.139	1.118	1.110	1.119	1.118	1.108
Dallas-Fort Worth, Tex.	.856	.852	.854	.958	1.029	1.019	.998	.968	.936	.937	.922	.909	.936
Detroit, Mich.	.948	.950	.946	1.100	1.124	1.116	1.088	1.024	1.016	1.027	1.004	.973	1.026
Houston, Tex.	.872	.873	.876	.969	1.022	1.025	1.017	.993	.974	.961	.961	.953	.958
Pittsburgh, Pa.	.900	.898	.890	1.007	1.069	1.079	1.037	.985	.952	.946	.920	.917	.966

Unleaded Premium

Chicago-N'Western Ind.	1.189	1.192	1.204	1.328	1.391	1.379	1.366	1.334	1.332	1.348	1.329	1.311	1.308
L.A.-Long Beach, Anaheim.	1.047	1.063	1.117	1.302	1.330	1.318	1.290	1.234	1.179	1.156	1.117	1.107	1.188
N.Y., N.Y.-N'Eastern N.J.	1.165	1.177	1.181	1.228	1.302	1.316	1.306	1.278	1.250	1.242	1.244	1.235	1.243
Philadelphia-N.J.	1.106	1.111	1.130	1.189	1.264	1.276	1.278	1.247	1.231	1.231	1.228	1.227	1.209
San Francisco-Oakland	1.053	1.056	1.089	1.247	1.304	1.293	1.283	1.263	1.201	1.182	1.157	1.137	1.188
Baltimore, Md.	1.167	1.172	1.174	1.221	1.279	1.288	1.281	1.225	1.213	1.208	1.209	1.210	1.220
Boston, Mass.	1.139	1.157	1.156	1.193	1.260	1.259	1.253	1.252	1.238	1.235	1.232	1.227	1.216
Cleveland, Ohio	1.096	1.116	1.136	1.291	1.328	1.301	1.269	1.248	1.226	1.264	1.220	1.189	1.223
Miami, Fla.	1.093	1.091	1.085	1.125	1.216	1.226	1.201	1.168	1.125	1.116	1.099	1.094	1.136
St. Louis, Mo.-Ill.	1.100	1.113	1.108	1.206	1.289	1.283	1.266	1.235	1.190	1.199	1.185	1.172	1.195
Washington-Md.-Va.	1.314	1.313	1.313	1.336	1.390	1.411	1.405	1.398	1.392	1.393	1.388	1.392	1.370
Dallas-Fort Worth, Tex.	.982	.981	.982	1.078	1.140	1.154	1.139	1.101	1.072	1.067	1.065	1.058	1.068
Detroit, Mich.	1.117	1.113	1.117	1.229	1.245	1.220	1.187	1.127	1.137	1.134	1.105	1.110	1.153
Houston, Tex.	1.069	1.074	1.075	1.131	1.174	1.184	1.182	1.172	1.160	1.147	1.143	1.145	1.138
Pittsburgh, Pa.	1.096	1.086	1.091	1.193	1.254	1.264	1.204	1.179	1.116	1.135	1.106	1.107	1.152

and Population Areas—1989(a)

Population Sizes and Regions	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average For Year
All Types													
U.S. city average	$ .944	$ .955	$ .974	$1.098	$1.152	$1.150	$1.132	$1.096	$1.073	$1.071	$1.046	$1.030	$1.057
Region and area size													
Northeast urban	1.010	1.015	1.012	1.073	1.149	1.160	1.150	1.119	1.101	1.102	1.093	1.087	1.089
Size A—More than 1,200,000	1.007	1.013	1.011	1.067	1.142	1.154	1.146	1.116	1.100	1.102	1.095	1.089	1.086
Size B—500,000 to 1,200,000	1.064	1.072	1.059	1.130	1.200	1.216	1.197	1.171	1.139	1.138	1.114	1.108	1.134
Size C—50,000 to 500,000	.966	.965	.971	1.073	1.151	1.146	1.123	1.077	1.051	1.049	1.037	1.033	1.053
North Central urban	.938	.946	.959	1.116	1.161	1.149	1.131	1.081	1.082	1.085	1.053	1.020	1.060
Size A—More than 1,200,000	.952	.959	.976	1.127	1.168	1.166	1.144	1.101	1.104	1.100	1.074	1.045	1.173
Size B—360,000 to 1,200,000	.895	.895	.910	1.087	1.122	1.083	1.047	1.006	1.008	1.021	.937	.960	1.001
Size C—50,000 to 360,000	.962	.965	.973	1.134	1.175	1.145	1.148	1.069	1.075	1.073	1.040	1.010	1.064
Size D—Nonmetropolitan (less than 50,000)	.904	.932	.925	1.081	1.163	1.152	1.155	1.085	1.073	1.097	1.046	.996	1.050
South urban	.949	.954	.961	1.073	1.135	1.136	1.122	1.082	1.060	1.061	1.032	1.021	1.048
Size A—More than 1,200,000	.968	.967	.969	1.050	1.117	1.119	1.104	1.086	1.055	1.050	1.017	1.006	1.042
Size B—450,000 to 1,200,000	.944	.948	.959	1.090	1.145	1.144	1.130	1.064	1.063	1.065	1.049	1.048	1.054
Size C—50,000 to 450,000	.925	.940	.949	1.077	1.139	1.140	1.126	1.092	1.062	1.065	1.030	1.005	1.045
Size D—Nonmetropolitan (less than 50,000)	.972	.974	.970	1.093	1.168	1.168	1.152	1.110	1.070	1.082	1.054	1.036	1.070
West urban	.896	.910	.968	1.140	1.170	1.161	1.130	1.110	1.056	1.043	1.014	1.001	1.049
Size A—More than 1,250,000	.886	.901	.957	1.133	1.162	1.153	1.116	1.102	1.044	1.026	.992	.982	1.037
Size C—50,000 to 330,000	.899	.911	.933	1.108	1.161	1.131	1.113	1.059	1.002	1.023	1.002	.987	1.027
Leaded Regular													
U.S. city average	$ .876	$ .886	$ .907	$1.047	$1.098	$1.093	$1.075	$1.034	$1.007	$1.001	$ .975	$ .961	$ .996
Northeast urban	.930	.921	.920	.975	1.052	1.080	1.070	1.047	1.050	1.071	1.075	1.048	1.019
Size A—More than 1,200,000	.933	.918	.919	.955	1.028	1.059	1.050	1.031	NA	NA	NA	NA	.986
Size B—500,000 to 1,200,000	.895	.896	.892	.985	1.078	1.131	NA	NA	NA	NA	NA	NA	.979
Size C—50,000 to 500,000	.922	.925	.928	1.054	NA	NA	NA	NA	NA	NA	NA	NA	.957
North Central urban	.890	.904	.913	1.075	1.125	1.111	1.097	1.028	1.041	1.037	1.015	.977	1.017
Size A—More than 1,200,000	.885	.894	.907	1.066	1.112	1.104	1.088	1.042	1.035	1.029	1.015	.985	1.013
Size B—360,000 to 1,200,000	.862	.869	.891	1.082	1.113	NA	NA	NA	NA	NA	NA	NA	.963
Size C—50,000 to 360,000	.931	.944	.960	1.097	1.140	1.107	1.118	1.033	1.063	1.051	1.008	.964	1.034
Size D—Nonmetropolitan (less than 50,000)	.886	.918	.899	1.073	1.149	1.136	1.121	1.011	1.042	1.046	NA	.976	1.023
South urban	.881	.889	.899	1.021	1.086	1.083	1.067	1.034	1.012	1.019	.992	.995	.923
Size A—More than 1,200,000	.864	.861	.865	.972	1.047	1.042	1.024	1.021	.982	.985	.946	.968	.964
Size B—450,000 to 1,200,000	.910	.913	.932	1.067	1.110	1.109	1.098	1.043	1.052	1.063	1.057	1.111	1.038
Size C—50,000 to 450,000	.853	.875	.884	1.013	1.087	1.084	1.063	1.029	.994	.996	.970	.936	.982
Size D—Nonmetropolitan (less than 50,000)	.924	.927	.931	1.042	NA	NA	NA	NA	NA	NA	NA	NA	.956
West urban	.848	.862	.906	1.081	1.107	1.096	1.071	1.035	.986	.972	.945	.933	.986
Size A—More than 1,250,000	.840	.852	.897	1.080	1.103	1.092	1.061	1.025	.973	.955	.929	.918	.977
Size C—50,000 to 330,000	.856	.873	.894	1.065	1.119	1.097	1.079	1.034	.976	.988	.958	.940	.990
Unleaded Regular													
U.S. city average	$ .918	$ .926	$ .940	$1.065	$1.119	$1.114	$1.092	$1.057	$1.029	$1.027	$ .999	$ .980	$1.022
Region and area size													
Northeast urban	.962	.966	.960	1.023	1.096	1.103	1.090	1.062	1.030	1.030	1.017	1.009	1.029
Size A—More than 1,200,000	.948	.955	.952	1.007	1.081	1.089	1.078	1.052	1.021	1.021	1.010	1.002	1.018
Size B—500,000 to 1,200,000	1.045	1.059	1.040	1.109	1.171	1.179	1.162	1.133	1.095	1.092	1.058	1.050	1.099
Size C—50,000 to 500,000	.924	.920	.927	1.032	1.107	1.099	1.077	1.027	.995	.994	.981	.977	1.005
North Central urban	.914	.919	.929	1.084	1.129	1.115	1.095	1.050	1.047	1.052	1.018	.986	1.028
Size A—More than 1,200,000	.920	.925	.937	1.087	1.128	1.123	1.100	1.058	1.058	1.056	1.028	.998	1.034
Size B—360,000 to 1,200,000	.859	.859	.876	1.049	1.085	1.044	1.010	.969	.967	.983	.941	.922	.963
Size C—50,000 to 360,000	.964	.960	.968	1.129	1.167	1.140	1.142	1.062	1.063	1.062	1.030	1.002	1.057
Size D—Nonmetropolitan (less than 50,000)	.909	.929	.921	1.073	1.158	1.146	1.148	1.087	1.071	1.098	1.046	.988	1.047
South urban	.920	.924	.925	1.034	1.098	1.096	1.078	1.037	1.009	1.008	.980	.963	1.006
Size A—More than 1,200,000	.931	.930	.929	1.008	1.073	1.073	1.056	1.027	.996	.989	.959	.945	.993
Size B—450,000 to 1,200,000	.903	.909	.910	1.039	1.103	1.098	1.077	1.018	1.003	1.006	.988	.974	1.002
Size C—50,000 to 450,000	.916	.925	.934	1.061	1.124	1.123	1.103	1.067	1.037	1.038	1.002	.977	1.025
Size D—Nonmetropolitan (less than 50,000)	.955	.956	.946	1.062	1.127	1.128	1.112	1.070	1.016	1.028	.997	.979	1.031
West urban	.883	.899	.952	1.126	1.158	1.148	1.111	1.090	1.028	1.015	.981	.970	1.029
Size A—More than 1,250,000	.867	.884	.943	1.119	1.150	1.143	1.100	1.085	1.016	.999	.959	.950	1.018
Size C—50,000 to 330,000	.901	.912	.934	1.109	1.168	1.130	1.114	1.059	1.000	1.021	.992	.977	1.026

(a) These prices are in $/gal. and include federal and state taxes and are representative of full service, self service and mini service. The selected local areas and the population groups are Standard Metropolitan Statistical Areas as defined by BLS and the U.S. Census Bureau.

Source: Bureau of Labor Statistics, Dept. of Commerce.

(Continued on Next Page)

Retail Gasoline Prices (continued)(a)

Population Sizes and Regions

Unleaded Premium

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average For Year
U.S. city average	$1.091	$1.100	$1.115	$1.221	$1.278	$1.278	$1.264	$1.233	$1.213	$1.209	$1.187	$1.170	$1.196
Region and area size													
Northeast urban	1.152	1.159	1.161	1.214	1.289	1.296	1.285	1.262	1.241	1.237	1.234	1.229	1.229
Size A—More than 1,200,000	1.150	1.160	1.161	1.212	1.265	1.293	1.285	1.263	1.241	1.237	1.235	1.230	1.229
Size B—500,000 to 1,200,000	1.186	1.182	1.180	1.244	1.325	1.333	1.303	1.288	1.266	1.265	1.250	1.244	1.255
Size C—50,000 to 500,000	1.124	1.126	1.137	1.206	1.285	1.278	1.251	1.214	1.198	1.204	1.193	1.189	1.200
North Central urban	1.103	1.099	1.105	1.255	1.299	1.290	1.276	1.231	1.234	1.234	1.210	1.175	1.209
Size A—More than 1,200,000	1.155	1.129	1.140	1.279	1.323	1.327	1.310	1.271	1.272	1.269	1.254	1.229	1.246
Size B—360,000 to 1,200,000	1.044	1.046	1.062	1.226	1.260	1.223	1.189	1.144	1.151	1.161	1.135	1.102	1.123
Size C—50,000 to 360,000	1.004	1.012	1.008	1.198	1.248	1.207	1.198	1.123	1.122	1.132	1.107	1.081	1.120
Size D—Nonmetropolitan (less than 50,000)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
South urban	1.069	1.077	1.081	1.182	1.243	1.245	1.237	1.195	1.176	1.176	1.144	1.129	1.162
Size A—More than 1,200,000	1.114	1.115	1.106	1.172	1.237	1.245	1.232	1.208	1.174	1.170	1.132	1.114	1.168
Size B—450,000 to 1,200,000	1.028	1.039	1.048	1.173	1.233	1.230	1.225	1.162	1.162	1.161	1.141	1.139	1.145
Size C—50,000 to 450,000	1.086	1.100	1.109	1.228	1.271	1.268	1.263	1.228	1.205	1.205	1.164	1.143	1.189
Size D—Nonmetropolitan (less than 50,000)	1.052	1.055	1.051	1.171	1.261	1.261	1.241	1.194	1.178	1.192	1.167	1.137	1.163
West urban	1.048	1.057	1.122	1.280	1.317	1.309	1.278	1.273	1.230	1.215	1.191	1.176	1.208
Size A—More than 1,250,000	1.050	1.061	1.108	1.268	1.303	1.292	1.267	1.268	1.227	1.204	1.175	1.160	1.198
Size C—50,000 to 330,000	1.053	1.048	1.076	1.262	1.294	1.275	1.242	1.170	1.120	1.168	1.172	1.163	1.170

Retail Gasoline Prices For Selected Areas(a)

Standard Metropolitan Statistical Areas	1989				1988				1987			
	Lead Reg.	Unld. Reg.	Unld. Prem.	All Types	Lead Reg.	Unld. Reg.	Unld. Prem.	All Types	Lead Reg.	Unld. Reg.	Unld. Prem.	All Types
U.S. City Average	$ .960	$1.015	$1.200	$1.059	$ .900	$ .946	$1.107	$ .964	$ .897	$ .948	$1.093	$ .979
Chicago-N'Western Ind.	1.010	1.107	1.308	1.143	.982	1.016	1.201	1.044	.968	1.004	1.184	1.025
L.A.-Long Beach, Anaheim	.969	.986	1.188	1.010	.894	.910	1.105	.933	.901	.931	1.107	.943
N.Y., N.Y.-N'Eastern N.J.	1.004	1.039	1.243	1.114	.919	.958	1.144	1.020	.903	.936	1.104	.986
Philadelphia, PA-N.J.	.942	.979	1.209	1.068	.906	.895	1.083	.938	.891	.895	1.070	.929
San Francisco-Oakland	.976	1.078	1.188	1.082	.907	1.011	1.108	1.006	.870	.955	1.081	.949
Baltimore, Md.	NA	1.041	1.220	1.102	.956	.980	1.160	1.023	.913	.935	1.100	.970
Boston, Mass.	.972	1.027	1.216	1.078	.923	.972	1.133	1.006	.883	.929	1.080	.958
Cleveland, Ohio	NA	1.018	1.223	1.068	.868	.948	1.161	.985	.888	.941	1.143	.961
Miami, Fla.	NA	.995	1.136	1.055	NA	.967	1.096	1.025	.949	.983	1.087	1.023
St. Louis, Mo.-Ill.	.945	.958	1.195	.988	.865	.903	1.118	.921	.853	.899	1.085	.910
Washington, D.C.-Md.-Va.	NA	1.108	1.370	1.185	.932	1.044	1.302	1.101	.911	.998	1.245	1.042
Dallas-Fort Worth, Tex.	.955	.936	1.068	.963	.875	.888	1.025	.906	.856	.881	1.006	.892
Detroit, Mich.	.948	1.026	1.153	1.033	.911	.969	1.114	.967	.900	.972	1.097	.964
Houston, Tex.	.868	.958	1.138	1.002	.852	.871	1.061	.911	.852	.880	1.068	.908
Pittsburgh, Pa.	.970	.966	1.152	.998	.882	.882	1.065	.904	.887	.899	1.078	.916

(a) See footnote on preceding page.

Source: Bureau of Labor Statistics, U.S. Dept. of Commerce.

Wholesale Price Trends Through 1989

Year	Refinery products in eight refinery markets representing total U.S.						Crude	
	Motor gasoline ¢/gal.	Kero-sine ¢/gal.	Light fuel ¢/gal.	Heavy fuel ¢/gal.	Average 4 products		8 areas $/bbl.	Products vs. crude $/bbl.
					¢/gal.	$/bbl.		
1989 (a)	59.15	60.78	56.02	40.87	43.76	18.38	15.89	2.49
1988	50.31	50.72	46.10	38.72	46.22	19.41	12.58	6.83
1987	53.22	56.75	52.25	45.36	50.89	21.37	15.41	5.96
1986	47.74	49.92	44.91	36.23	43.97	18.47	12.51	5.96
1985	81.11	81.69	76.66	56.41	73.06	30.69	24.09	6.60
1984	81.14	84.75	79.62	59.14	74.49	31.29	25.88	5.41
1983	86.97	85.12	80.05	57.30	76.94	32.31	26.19	6.12
1982	94.56	97.18	91.95	57.80	83.27	34.97	28.52	6.45
1981	101.63	101.03	97.20	61.17	88.75	37.28	31.77	5.51

(a) Preliminary

Source: Independent Petroleum Assn. of America. Product figures reflect trends in prices but not the actual sales realizations for producers or refiners.

Supplier Gasoline Prices, by Type of Seller

(¢ per gal., excluding taxes)

	Major Refiners			Other Refiners			Average		
	Sales to End-Users			Sales to End-Users			Sales to End-Users		
Year Month	Through Company Outlets	Other End-Users	Sales for Resale	Through Company Outlets	Other End-Users	Sales for Resale	Through Company Outlets	Other End-Users	Sales for Resale
1989									
January	67.8	56.4	58.0	62.7	51.8	51.0	66.6	54.6	56.3
February	68.3	58.2	58.8	63.3	53.2	52.7	67.1	55.9	57.5
March	70.5	61.0	62.4	65.8	57.8	57.0	69.4	59.6	61.2
April	83.1	75.0	75.2	80.4	74.9	70.6	82.5	74.9	74.2
May	87.3	77.8	77.7	84.3	73.5	72.4	86.5	76.0	76.5
June	86.2	75.4	75.4	82.6	73.2	69.4	85.3	74.6	74.0
July	83.8	70.5	70.7	81.0	67.3	63.7	83.2	69.3	69.1
August	78.4	63.5	64.5	75.5	59.5	56.5	77.8	62.1	62.7
September	76.5	66.0	67.0	73.5	64.5	61.9	75.8	65.5	65.8
October	76.4	66.0	65.6	72.8	63.4	59.8	75.6	65.1	64.3
November	74.6	62.6	62.9	70.2	60.0	56.3	73.6	61.7	61.5
December	74.0	61.7	63.0	69.1	60.1	56.5	72.9	61.3	61.6
1989 Average	**77.4**	**66.2**	**66.9**	**73.6**	**63.4**	**60.8**	**76.6**	**65.2**	**65.5**
1988									
January	67.0	52.9	55.2	62.9	49.8	47.5	65.9	51.9	53.4
February	65.3	54.5	55.4	61.2	50.1	48.5	64.1	53.0	53.8
March	64.4	53.9	55.4	60.4	51.4	49.2	63.2	53.1	53.9
April	67.8	58.1	59.9	64.2	56.2	54.3	66.8	57.4	58.6
May	70.1	60.0	61.3	66.5	58.3	55.4	69.1	59.5	59.9
June	69.8	59.9	60.8	66.0	58.0	54.8	68.7	59.3	59.3
July	71.6	62.4	63.8	67.6	58.6	58.2	70.5	60.8	62.4
August	73.6	62.5	62.9	69.8	59.7	56.5	72.6	61.5	61.4
September	72.1	58.6	59.8	67.9	54.9	52.3	71.0	57.2	58.0
October	70.2	57.1	59.2	66.0	51.3	51.5	69.1	54.7	57.3
November	69.6	59.1	60.0	65.7	52.0	52.6	68.5	56.1	58.1
December	68.2	55.5	56.9	64.0	49.8	49.1	67.1	53.2	54.9
1988 Average	**69.2**	**57.8**	**59.3**	**65.2**	**54.1**	**52.7**	**68.1**	**56.4**	**57.7**
1987 Average	**67.7**	**59.2**	**60.1**	**65.3**	**55.2**	**55.0**	**67.8**	**67.8**	**58.9**
1986 Average	**64.1**	**57.6**	**54.4**	**61.2**	**52.7**	**48.7**	**63.2**	**55.8**	**53.1**
1984 Average	**92.0**	**85.7**	**84.2**	**90.0**	**84.9**	**80.2**	**91.4**	**85.6**	**83.2**
1982 Average	**108.2**	**101.1**	**98.3**	**105.6**	**100.2**	**94.3**	**107.2**	**100.9**	**97.3**
1980 Average	**105.6**	**93.7**	**95.1**	**103.0**	**97.8**	**91.3**	**104.6**	**98.5**	**94.1**

Source: Energy Information Administration, Petroleum Marketing Monthly, December 1989, published March 1990. (Table 13)

Supplier Gasoline Prices, by Grade and Type

(¢ per gal., excluding taxes)

	Leaded Regular			Unleaded Regular			Unleaded Midgrade			Premium		
	Sales to End-Users			Sales to End-Users			Sales to End-Users			Sales to End-Users		
Year Month	Through Company Outlets	Other End-Users	Sales for Resale	Through Company Outlets	Other End-Users	Sales for Resale	Through Company Outlets	Other End-Users	Sales for Resale	Through Company Outlets	Other End-Users	Sales for Resale
1989												
January	60.3	51.5	52.4	62.1	52.4	52.4	72.0	64.0	62.3	78.6	63.5	66.8
February	61.4	54.9	54.0	62.5	53.7	53.5	71.7	64.1	62.9	79.1	64.6	67.3
March	64.3	60.0	58.6	65.0	57.2	57.5	73.3	60.4	64.7	81.1	68.8	70.5
April	78.9	76.6	72.7	78.9	72.2	70.7	85.7	81.8	75.7	93.1	82.0	83.7
May	82.8	74.4	74.1	82.9	73.5	73.1	89.9	83.7	79.0	97.5	84.4	86.2
June	81.6	74.2	72.2	81.4	72.4	70.6	88.6	79.9	76.6	96.7	82.6	83.5
July	80.2	67.5	67.8	78.9	67.2	65.3	85.8	72.0	71.7	94.5	77.2	79.2
August	75.4	59.5	60.0	73.2	59.7	58.9	80.3	68.8	66.2	89.4	70.6	73.1
September	71.9	64.1	63.6	71.2	63.3	62.3	78.6	69.4	68.5	87.4	73.2	75.2
October	70.9	63.4	61.7	70.8	63.1	60.5	78.5	67.7	67.0	87.3	71.8	74.1
November	68.6	59.3	58.9	68.6	59.6	57.5	76.7	65.4	64.3	85.5	69.0	71.1
December	67.3	60.9	58.3	67.6	58.7	57.6	76.0	64.7	64.7	84.9	69.8	71.1
1989 Average	**71.8**	**64.1**	**63.1**	**72.3**	**62.8**	**61.9**	**80.1**	**69.4**	**68.6**	**87.8**	**73.5**	**75.0**
1988												
January	60.4	51.1	50.1	62.8	50.9	50.9	NA	NA	NA	77.4	60.2	62.6
February	58.6	51.9	50.6	61.2	51.8	51.3	NA	NA	NA	75.7	61.6	62.6
March	57.8	52.2	51.1	60.3	51.9	51.5	NA	NA	NA	74.8	59.7	62.3
April	61.5	57.9	56.2	63.9	55.9	56.0	NA	NA	NA	77.8	65.0	66.8
May	63.8	59.2	57.3	66.3	58.2	57.3	NA	NA	NA	79.9	67.2	68.5
June	63.4	58.7	56.7	65.6	57.8	56.5	NA	NA	NA	79.8	68.1	68.4
July	65.0	61.1	60.3	67.3	59.1	59.3	NA	NA	NA	81.5	69.6	71.7
August	67.2	62.1	59.2	69.5	59.8	58.2	NA	NA	NA	83.6	69.0	70.9
September	65.6	57.8	55.2	67.6	55.4	54.8	NA	NA	NA	82.3	66.0	68.1
October	63.6	53.6	54.0	65.5	53.0	54.0	NA	NA	NA	80.6	63.8	68.0
November	62.6	54.1	54.4	65.1	54.3	54.8	NA	NA	NA	80.1	66.3	68.8
December	61.1	50.0	50.6	63.3	51.6	51.5	NA	NA	NA	78.8	62.8	65.8
1988 Average	**62.4**	**55.5**	**54.8**	**64.9**	**55.0**	**54.8**	**NA**	**NA**	**NA**	**79.4**	**64.9**	**67.2**
1987 Average	**62.3**	**57.4**	**56.5**	**65.9**	**56.4**	**56.9**	**NA**	**NA**	**NA**	**79.0**	**65.4**	**67.1**
1986 Average	**57.8**	**54.4**	**50.1**	**62.4**	**54.9**	**52.2**	**NA**	**NA**	**NA**	**74.8**	**63.0**	**61.0**
1985 Average	**84.6**	**82.0**	**79.3**	**92.5**	**86.1**	**84.3**	**NA**	**NA**	**NA**	**103.0**	**92.8**	**92.2**
1984 Average	**35.1**	**82.8**	**79.5**	**92.2**	**86.5**	**84.2**	**NA**	**NA**	**NA**	**102.1**	**93.7**	**91.6**

Source: Energy Information Administration, Petroleum Marketing Monthly, December 1989, published March 1990. (Table 11)

Supplier Product Prices for Resale

(¢ per gal., excluding taxes)

Year Month	Motor Gasoline	Aviation Gasoline	Kerosine-Type Jet Fuel	Propane (Consumer Grade)	Kerosine	No. 1 Distillate	No. 2 Distillate			No. 4 Fuel[(a)]	Residual Fuel Oil
							No. 2 Fuel Oil	No. 2 Diesel Fuel	Average		
1989											
January	56.3	84.0	56.3	24.0	63.1	59.7	53.2	51.1	52.3	44.9	32.6
February	57.5	86.0	55.2	22.7	59.5	58.2	51.0	52.9	51.9	43.5	32.3
March	61.2	86.6	56.5	22.5	61.3	61.8	54.4	56.0	55.1	44.0	32.2
April	74.2	94.2	59.4	22.6	60.3	66.9	56.5	59.9	58.2	56.0	38.2
May	76.5	101.8	56.6	22.1	55.9	62.0	52.5	54.1	53.4	43.9	37.7
June	74.0	101.2	54.5	21.3	53.8	57.9	49.6	51.0	50.4	46.7	35.3
July	69.1	100.9	53.5	20.7	57.0	58.4	50.3	50.6	50.5	44.1	35.7
August	62.7	97.6	54.4	21.6	59.8	60.9	51.2	52.5	51.9	41.6	34.6
September	65.8	96.2	58.6	23.1	63.6	66.8	56.4	58.6	57.6	49.1	35.1
October	64.3	93.3	63.1	24.4	67.4	69.9	60.1	62.4	61.4	51.1	36.7
November	61.5	92.5	63.4	24.4	68.4	70.9	60.4	62.2	61.3	50.3	36.7
December	61.6	92.8	67.4	36.2	81.7	78.2	72.8	68.6	70.9	58.1	42.3
1989 Average	**65.5**	**95.0**	**58.4**	**24.6**	**66.9**	**66.7**	**56.5**	**56.7**	**56.6**	**48.0**	**35.8**
1988											
January	53.4	85.9	53.2	26.8	59.2	57.7	52.0	51.0	51.6	47.6	32.4
February	53.8	84.2	52.4	26.6	57.1	54.5	48.9	49.0	48.9	45.9	32.2
March	53.9	84.2	50.4	25.6	54.3	54.7	47.6	49.2	48.4	45.4	28.6
April	58.6	84.2	50.4	25.2	54.2	59.4	50.7	51.9	51.3	44.0	30.2
May	59.9	85.0	51.4	24.9	53.3	58.0	50.1	51.3	50.8	45.7	31.5
June	59.3	85.1	51.0	24.3	50.0	54.0	46.6	47.9	47.3	41.6	31.0
July	62.4	86.1	47.5	21.8	48.3	51.0	43.3	44.0	43.7	39.5	29.5
August	61.4	86.7	47.9	22.1	48.9	51.6	44.3	45.0	44.7	40.8	30.6
September	58.0	85.7	46.9	22.5	49.8	51.8	43.3	44.7	44.0	42.1	29.5
October	57.3	83.8	45.2	22.1	49.4	50.6	41.9	42.0	42.0	31.4	25.6
November	58.1	83.5	46.4	22.1	52.8	53.5	45.1	44.6	44.8	38.5	28.0
December	54.9	83.7	50.1	22.9	57.8	56.5	49.9	48.0	49.0	41.7	29.8
1988 Average	**57.7**	**85.0**	**49.5**	**24.0**	**54.9**	**54.9**	**47.3**	**47.3**	**47.3**	**42.5**	**30.0**
1987 Average	**58.9**	**85.9**	**53.8**	**25.2**	**59.2**	**59.9**	**52.7**	**53.4**	**53.1**	**46.2**	**38.5**
1986 Average	**53.1**	**91.2**	**49.5**	**29.0**	**60.6**	**57.9**	**48.6**	**45.2**	**47.0**	**40.9**	**30.5**
1985 Average	**83.5**	**113.0**	**79.4**	**39.8**	**87.4**	**86.3**	**77.6**	**77.2**	**77.4**	**67.2**	**57.7**
1984 Average	**83.2**	**116.5**	**83.0**	**45.0**	**91.6**	**89.2**	**82.1**	**80.3**	**81.3**	**70.7**	**65.4**
1982 Average	**97.3**	**122.8**	**95.3**	**42.7**	**101.8**	**103.8**	**91.4**	**91.4**	**91.4**	**73.7**	**61.2**
1980 Average	**94.1**	**112.8**	**86.8**	**41.5**	**86.4**	**88.0**	**80.3**	**80.1**	**80.2**	**67.0**	**52.8**

(a) Includes No. 4 fuel oil and No 4 diesel fuel.

Source: Energy Information Administration, Petroleum Marketing Monthly, December 1989, published March 1990. (Table 4).

Supplier Product Prices for End-Users

(¢ per gal., excluding taxes)

Year Month	Motor Gasoline	Aviation Gasoline	Kerosine-Type Jet Fuel	Propane (Consumer Grade)	Kerosine	No. 1 Distillate	No. 2 Distillate			No. 4 Fuel[(a)]	Residual Fuel Oil
							No. 2 Fuel Oil	No. 2 Diesel Fuel	Average		
1989											
January	65.8	89.1	56.2	66.2	71.4	60.5	58.3	53.5	54.2	49.0	36.3
February	66.2	89.7	57.0	64.1	72.2	59.2	55.9	54.3	54.6	48.3	34.9
March	68.6	90.5	57.9	61.8	67.6	62.0	57.7	56.9	57.1	49.2	36.8
April	81.9	99.0	60.6	55.3	66.2	67.6	59.4	60.6	60.5	53.0	41.2
May	85.8	106.9	58.1	52.7	59.7	63.8	54.5	56.9	56.6	50.3	41.3
June	84.7	107.1	56.1	56.6	53.9	61.0	50.2	53.2	52.8	46.4	39.6
July	82.4	105.4	54.7	60.6	55.3	58.5	51.9	53.1	53.0	46.1	38.9
August	76.9	102.0	55.1	59.8	58.0	58.7	51.9	53.7	53.4	46.2	37.1
September	75.2	100.7	58.9	60.1	66.8	67.1	57.2	59.5	59.2	50.0	37.1
October	75.0	100.4	63.8	59.9	73.6	70.4	61.6	63.6	63.3	53.6	39.5
November	72.9	98.6	64.4	58.4	77.7	71.8	62.6	64.3	64.0	53.7	39.9
December	72.4	97.3	68.2	74.3	89.7	79.2	76.2	71.2	72.2	64.3	46.4
1989 Average	**75.8**	**99.5**	**59.2**	**61.9**	**71.0**	**66.2**	**59.1**	**58.4**	**58.5**	**51.2**	**39.1**
1988											
January	64.9	88.4	56.4	72.6	84.1	58.8	63.0	54.2	56.1	50.5	36.7
February	63.3	88.2	55.0	75.5	84.6	55.5	60.1	51.9	53.5	51.3	35.6
March	62.5	87.7	53.9	73.6	77.5	56.6	57.6	51.3	52.3	46.6	32.9
April	66.0	87.6	52.3	68.9	82.2	60.0	58.5	53.8	54.4	48.5	32.4
May	68.4	89.2	53.1	65.2	61.2	58.8	55.5	53.6	53.9	46.6	33.9
June	68.1	87.2	52.7	70.0	55.4	56.0	49.3	50.8	50.6	43.5	33.6
July	69.9	89.7	50.3	70.7	56.0	52.3	46.3	47.2	47.1	42.5	32.3
August	71.8	92.2	49.1	68.9	56.3	53.2	47.7	47.3	47.3	41.9	33.2
September	70.0	90.8	48.4	69.9	66.1	54.6	48.3	47.3	47.4	42.9	32.1
October	68.0	88.7	46.3	69.4	71.8	53.5	48.0	45.4	45.8	41.6	30.5
November	67.6	89.2	47.6	71.5	71.1	54.7	51.5	47.4	48.1	43.3	32.3
December	66.1	89.2	51.0	73.5	74.1	57.0	58.1	50.5	52.0	46.3	34.3
1988 Average	**67.3**	**89.1**	**51.3**	**71.4**	**73.8**	**56.4**	**54.4**	**50.0**	**50.7**	**46.1**	**33.4**
1987 Average	**66.9**	**90.7**	**54.3**	**70.1**	**77.0**	**60.4**	**58.1**	**55.1**	**55.6**	**51.3**	**42.3**
1986 Average	**62.4**	**101.1**	**52.9**	**74.5**	**79.0**	**62.0**	**56.0**	**47.8**	**49.1**	**48.9**	**34.3**
1985 Average	**91.2**	**120.1**	**79.6**	**71.7**	**103.0**	**88.0**	**84.9**	**78.9**	**79.9**	**77.3**	**61.0**
1984 Average	**90.7**	**123.4**	**84.2**	**73.7**	**103.6**	**92.7**	**91.6**	**82.3**	**83.7**	**79.6**	**68.7**
1982 Average	**106.0**	**131.2**	**96.3**	**59.2**	**108.9**	**102.3**	**90.5**	**94.2**	**92.5**	**75.0**	**67.6**
1980 Average	**103.5**	**108.4**	**86.8**	**48.2**	**90.2**	**83.4**	**78.8**	**81.8**	**80.4**	**68.2**	**60.7**

(a) Includes No. 4 fuel oil and No. 4 diesel fuel.

Source: Energy Information Administration, Petroleum Marketing Monthly, December 1989, published March 1990. (Table 2).

Supplier Prices of No. 2 Distillate Fuel Oil

(¢ per gal., excluding taxes)

	Sales to End-Users						
	To Residential Consumers	To Commercial/ Institutional Consumers	To Industrial Consumers	Sales Through Company Outlets	To Other End-Users	Average	Sales for Resale
1989							
January......	85.0	57.1	58.6	63.6	59.8	68.1	53.2
February.....	85.5	57.0	59.3	64.4	61.5	68.7	52.4
March.......	87.1	59.5	62.2	66.1	65.2	69.5	55.6
April.........	87.8	61.9	64.3	70.7	69.0	69.6	57.8
May.........	86.7	57.9	60.2	69.1	66.4	65.3	53.8
June........	84.2	54.5	56.7	66.3	62.5	60.9	51.1
July.........	82.1	54.7	56.4	65.1	62.0	60.4	51.2
August.......	81.6	55.6	58.1	64.3	63.2	61.2	52.6
September ...	81.4	60.5	64.0	68.7	68.4	66.4	57.8
October......	85.6	64.4	67.8	71.3	71.9	70.7	61.3
November....	88.3	65.2	68.0	72.4	71.7	72.9	61.5
December....	107.8	76.6	77.6	81.4	79.4	88.9	72.2
1989 Average ..	**90.0**	**60.8**	**63.3**	**68.5**	**66.9**	**69.5**	**57.2**
1988							
January......	84.7	57.4	58.3	65.2	60.1	69.3	52.0
February.....	83.9	54.4	56.5	63.5	59.4	66.6	49.8
March.......	83.1	53.4	55.6	62.6	61.2	64.0	49.1
April.........	83.1	55.6	58.1	63.8	63.2	63.9	51.8
May.........	81.9	54.7	57.2	64.1	62.1	61.6	51.4
June........	79.1	51.2	54.4	62.4	59.4	57.7	48.1
July.........	76.7	47.9	51.2	60.9	56.6	54.8	44.6
August.......	73.7	48.3	51.1	60.1	56.2	54.7	45.4
September ...	75.9	48.4	51.2	59.2	56.9	55.8	44.8
October......	75.5	47.3	50.4	58.4	56.2	56.4	42.8
November....	77.2	49.9	52.5	59.0	55.6	59.2	45.6
December....	81.4	54.0	55.4	61.4	57.1	64.9	50.1
1988 Average ..	**81.3**	**51.9**	**54.2**	**61.6**	**58.7**	**61.2**	**48.2**
1987 Average ..	**80.3**	**56.6**	**59.7**	**64.4**	**63.1**	**64.3**	**53.5**
1986 Average ..	**83.6**	**51.4**	**53.7**	**59.8**	**56.9**	**61.4**	**48.0**
1985 Average ..	**105.3**	**82.1**	**83.4**	**88.6**	**85.3**	**89.0**	**78.1**

Source: Energy Information Administration, Petroleum Marketing Monthly, December 1989 published March 1990 (Table 15).

Supplier Prices of Residual Fuel Oil

(¢ per gal., excluding taxes)

	Residual Fuel Oil Sulfur Content Less Than or Equal to 1%		Residual Fuel Oil Sulfur Content Greater Than 1%		Average	
	Sales to End-Users	Sales for Resale	Sales to End-Users	Sales for Resale	Sales to End-Users	Sales for Resale
1989						
January......	41.7	37.8	31.3	29.2	36.3	32.6
February.....	39.8	36.5	30.2	28.9	34.9	32.3
March.......	41.8	38.0	30.1	27.5	36.8	32.2
April.........	46.6	43.9	35.5	33.2	41.2	38.2
May.........	46.5	42.9	37.0	34.5	41.3	37.7
June........	42.8	38.1	36.6	34.0	39.6	35.3
July.........	42.1	38.4	35.7	33.5	38.9	35.7
August.......	39.4	36.7	34.8	32.9	37.1	34.6
September ...	40.2	37.9	34.7	31.8	37.1	35.1
October......	43.2	39.6	36.5	33.8	39.5	36.7
November....	44.1	40.3	36.7	33.7	39.9	36.7
December....	53.4	46.9	39.9	37.7	46.4	42.3
1989 Average ..	**43.6**	**40.0**	**34.9**	**32.5**	**39.1**	**35.8**
1988						
January......	41.9	36.5	31.8	27.7	36.7	32.4
February.....	40.2	35.2	31.4	27.4	35.6	32.2
March.......	36.9	32.4	29.0	25.0	32.9	28.6
April.........	35.8	33.5	30.2	27.5	32.4	30.2
May.........	36.8	34.0	32.2	29.8	33.9	31.5
June........	35.3	32.9	32.3	29.0	33.6	31.0
July.........	35.7	31.8	30.0	27.7	32.3	29.5
August.......	36.0	32.7	30.7	28.4	33.2	30.6
September ...	34.7	31.4	30.1	28.4	32.1	29.5
October......	34.4	29.2	26.7	23.5	30.5	25.6
November....	36.1	31.9	27.2	24.5	32.3	28.0
December....	38.8	35.6	28.6	27.0	34.3	29.8
1988 Average ..	**37.2**	**33.3**	**30.0**	**27.1**	**33.4**	**30.0**
1987 Average ..	**44.7**	**41.2**	**39.6**	**36.2**	**42.3**	**38.5**
1986 Average ..	**37.2**	**32.8**	**31.7**	**28.9**	**34.3**	**30.5**
1985 Average ..	**64.4**	**61.0**	**58.2**	**56.0**	**61.0**	**57.7**
1984 Average ..	**72.0**	**68.5**	**65.9**	**63.9**	**68.7**	**65.4**
1982 Average ..	**74.7**	**69.5**	**61.1**	**57.2**	**67.6**	**61.2**
1980 Average ..	**67.5**	**60.8**	**52.3**	**47.9**	**60.7**	**52.8**

Source: Energy Information Administration, Petroleum Marketing Monthly, December 1989, published March 1990. (Table 17).

Residential No. 2 Prices for Selected States

(¢ per gal., excluding taxes)

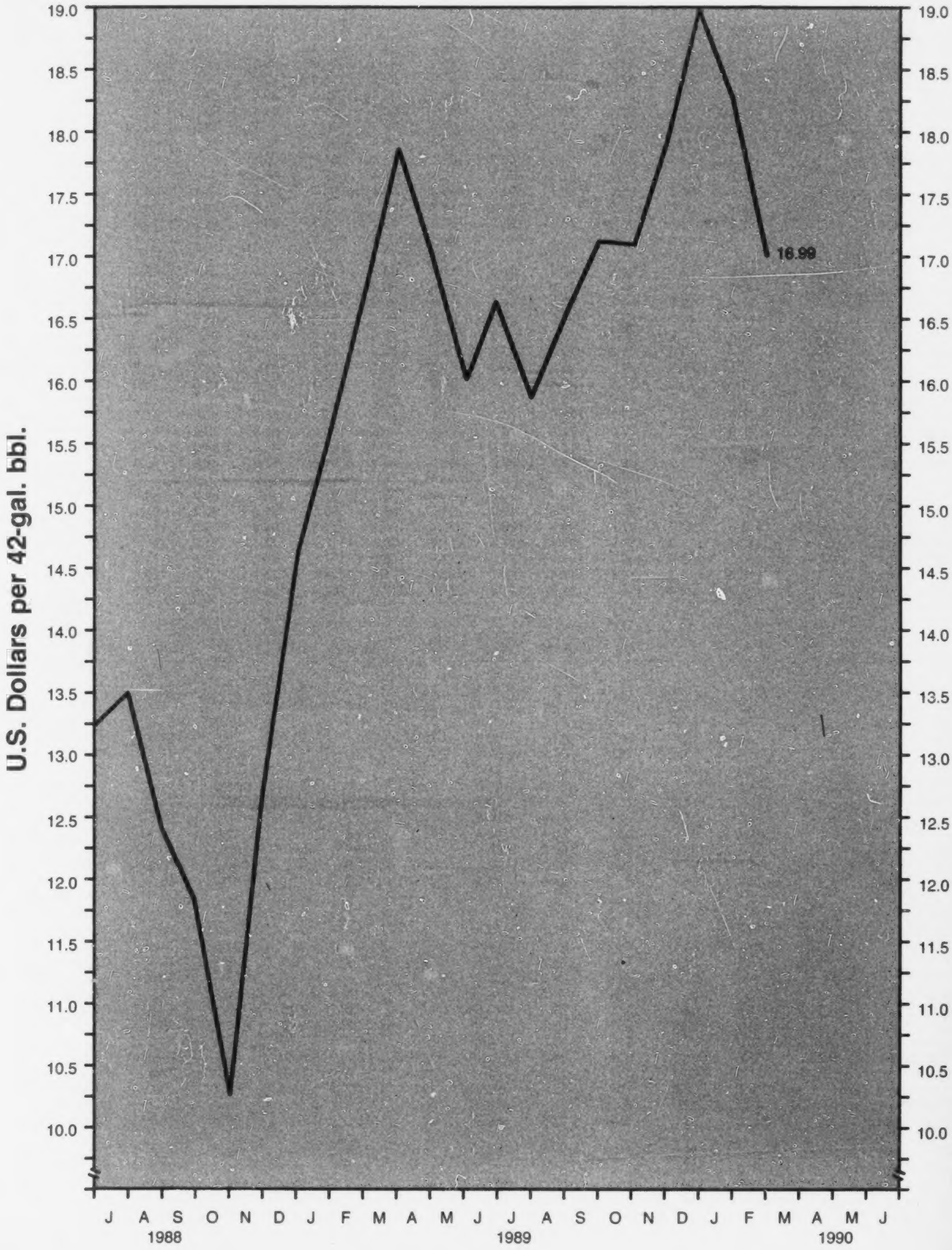
	Conn.	Maine	Mass.	N.H.	R.I.	Vt.	Del.	D.C.	Md.	N.J.	N.Y.	Pa.	Va.
1989													
January	88.5	85.5	87.1	83.0	87.4	86.0	84.4	94.0	88.0	87.3	90.9	81.6	82.9
February	88.8	87.3	86.3	83.8	88.3	86.9	84.1	95.1	88.7	87.0	92.1	82.2	82.3
March	89.9	88.2	88.1	84.8	90.0	88.2	82.9	96.0	89.3	88.9	93.2	83.2	82.4
April	89.4	87.2	87.8	83.2	89.9	87.8	84.8	95.0	90.6	87.8	93.7	83.2	82.1
May	88.1	81.0	86.8	83.1	88.8	86.9	83.4	92.1	89.6	87.2	92.7	82.2	81.4
June	85.7	73.5	83.4	79.4	87.6	84.3	80.3	92.0	88.4	83.0	91.7	77.6	79.4
July	85.0	71.9	81.1	77.8	85.4	82.9	78.9	90.7	85.7	82.3	90.5	74.1	78.7
August	84.6	70.0	81.1	78.2	84.1	82.0	78.8	90.1	85.3	80.1	90.1	72.6	78.1
September	85.2	74.6	84.9	79.2	86.5	82.5	78.8	91.4	83.4	81.8	86.5	74.2	79.9
October	88.9	82.7	88.5	82.9	90.3	85.1	82.4	92.0	88.5	87.3	91.0	78.9	63.8
November	89.9	86.7	91.1	86.7	92.4	86.3	86.1	94.7	91.5	89.7	93.7	81.6	86.1
December	111.9	106.6	116.2	111.7	115.2	111.7	112.1	110.5	111.4	108.3	114.0	103.4	105.4
1989 Average	**92.8**	**89.5**	**92.9**	**89.3**	**94.2**	**90.5**	**88.2**	**96.7**	**93.6**	**91.8**	**95.8**	**85.1**	**86.8**
1988													
January	88.9	80.3	85.6	82.5	87.1	85.9	83.9	95.8	90.9	88.1	89.1	82.9	82.7
February	89.0	79.7	84.1	81.6	86.4	85.9	83.2	96.0	90.3	87.7	88.4	82.0	83.4
March	87.4	79.2	83.3	80.3	84.7	85.0	81.5	93.1	88.2	86.8	87.3	81.1	83.8
April	88.1	78.7	83.2	79.0	85.4	85.0	82.5	91.8	89.1	85.8	86.7	80.5	83.0
May	87.6	77.6	82.3	78.3	85.1	84.4	82.5	93.9	87.9	85.4	84.9	79.1	81.7
June	86.4	75.4	78.3	79.3	81.4	83.8	80.9	89.7	86.8	82.5	83.5	74.6	79.1
July	83.5	73.3	77.1	76.6	76.3	81.3	73.4	87.6	85.0	80.9	81.7	71.1	77.3
August	81.9	75.7	74.2	73.8	79.7	80.3	73.9	85.9	84.2	78.6	78.0	63.9	77.0
September	80.8	71.7	80.0	73.3	78.4	78.5	72.6	85.8	76.0	76.3	83.0	68.6	75.8
October	79.9	69.0	77.7	71.5	75.5	77.0	71.8	84.1	78.3	77.8	81.7	69.5	74.8
November	80.5	72.0	77.9	72.3	79.7	77.8	74.8	85.6	81.3	78.8	83.3	70.9	77.1
December	84.4	80.2	82.8	77.3	83.4	81.6	79.6	89.8	85.0	84.0	87.8	76.5	79.6
1988 Average	**85.3**	**77.7**	**82.1**	**78.2**	**83.6**	**82.6**	**80.1**	**91.6**	**87.0**	**84.8**	**86.3**	**77.8**	**80.5**
1987 Average	**83.4**	**74.7**	**80.6**	**76.5**	**82.5**	**81.1**	**79.3**	**91.8**	**86.6**	**84.3**	**85.2**	**76.9**	**79.5**
1986 Average	**89.0**	**74.4**	**82.1**	**75.9**	**82.8**	**86.6**	**85.0**	**93.1**	**91.4**	**90.2**	**91.1**	**81.4**	**86.6**
1985 Average	**108.0**	**99.7**	**107.0**	**102.4**	**106.7**	**107.7**	**104.6**	**114.3**	**108.8**	**105.9**	**111.3**	**102.3**	**106.3**
1984 Average	**112.1**	**103.9**	**111.6**	**108.4**	**111.4**	**111.9**	**109.6**	**118.7**	**113.5**	**111.0**	**115.5**	**107.9**	**110.5**
1983 Average	**109.1**	**102.8**	**109.1**	**104.1**	**110.5**	**112.9**	**106.0**	**117.0**	**110.3**	**107.9**	**112.1**	**105.8**	**108.7**
1982 Average	**118.3**	**115.5**	**117.6**	**117.4**	**120.1**	**120.1**	**111.3**	**124.5**	**117.1**	**117.4**	**120.5**	**113.7**	**117.7**
1981 Average	**121.7**	**120.4**	**121.3**	**123.7**	**123.8**	**125.4**	**117.3**	**127.4**	**121.4**	**121.5**	**123.2**	**118.1**	**120.5**

	W.Va.	Ill.	Ind.	Mich.	Minn.	Ohio	Wis.	Idaho	Ark.	Ore.	Wash.	U.S. Avg.
1989												
January	76.1	76.6	77.9	79.1	75.4	78.0	73.9	68.0	87.0	66.7	76.5	85.0
February	76.0	75.8	77.2	79.4	75.7	76.7	74.0	71.4	91.2	76.8	86.0	85.5
March	77.1	76.5	77.9	81.6	77.0	77.5	75.6	78.2	96.0	84.3	92.9	87.1
April	77.0	79.8	80.2	83.1	82.3	79.4	76.3	85.8	99.5	87.4	94.1	87.8
May	77.4	78.5	78.1	83.0	82.1	78.5	78.0	83.5	100.0	79.7	87.2	86.7
June	80.9	77.0	76.4	80.1	81.1	79.3	78.0	79.1	101.5	75.0	78.0	84.2
July	78.1	74.5	76.1	80.3	80.8	79.4	75.7	77.3	105.8	71.2	74.6	82.[illegible]
August	73.6	78.3	75.8	79.1	79.4	78.1	75.5	77.0	108.1	71.2	78.1	81.6
September	79.3	77.4	80.1	82.9	80.8	77.5	76.5	80.3	96.3	81.5	83.9	81.4
October	81.7	81.9	83.3	86.4	82.4	78.4	79.5	82.7	103.9	86.5	91.7	85.6
November	83.1	82.9	84.0	88.2	86.4	78.8	82.7	84.8	98.0	86.4	93.4	88.3
December	98.4	94.0	99.8	102.3	96.1	91.3	97.6	84.3	98.2	86.0	93.1	107.8
1989 Average	**82.7**	**80.8**	**83.3**	**85.6**	**82.5**	**80.9**	**80.9**	**77.6**	**97.4**	**80.3**	**87.3**	**90.0**
1988												
January	78.7	85.4	78.3	81.2	75.5	77.2	76.9	74.4	88.3	76.0	83.2	84.7
February	76.1	86.1	76.7	80.9	74.4	77.1	76.0	71.7	85.6	74.9	82.1	83.9
March	75.6	86.1	77.4	78.2	72.6	76.1	75.8	70.6	88.7	73.5	81.3	83.1
April	74.6	87.4	79.0	78.8	73.1	77.1	77.7	73.3	86.6	75.0	82.1	83.1
May	73.6	86.7	76.6	77.5	74.3	74.5	76.8	71.9	88.9	74.6	82.3	81.9
June	71.8	82.9	80.1	73.7	72.5	71.9	74.6	70.5	88.1	73.9	78.0	79.1
July	70.3	83.8	74.0	73.3	75.7	70.0	72.7	67.7	85.5	66.4	73.5	76.7
August	67.9	80.3	74.1	73.9	72.2	69.2	71.2	64.3	85.7	64.3	70.1	73.7
September	69.3	68.6	69.5	74.2	72.4	72.0	68.8	67.4	89.7	64.8	73.9	75.9
October	71.3	69.4	71.2	75.4	71.1	71.2	68.0	66.8	86.2	62.4	71.0	75.5
November	74.1	70.6	72.1	75.6	72.7	73.0	69.9	66.6	85.3	63.4	73.4	77.2
December	73.9	73.1	75.3	77.0	73.0	75.2	71.6	66.9	85.6	64.2	75.7	81.4
1988 Average	**74.2**	**77.6**	**75.4**	**77.5**	**73.5**	**74.7**	**73.9**	**68.8**	**86.9**	**70.9**	**78.5**	**81.3**
1987 Average	**76.4**	**79.8**	**75.4**	**77.5**	**74.6**	**74.7**	**75.1**	**68.8**	**86.5**	**72.5**	**79.5**	**80.3**
1986 Average	**74.6**	**NA**	**74.8**	**81.0**	**79.2**	**77.7**	**75.6**	**73.8**	**94.9**	**70.4**	**77.5**	**83.6**
1985 Average	**98.0**	**97.5**	**99.1**	**102.1**	**101.9**	**99.7**	**98.3**	**97.2**	**108.3**	**97.1**	**101.1**	**105.3**
1984 Average	**102.1**	**100.1**	**103.1**	**105.0**	**104.1**	**102.1**	**101.0**	**98.5**	**106.9**	**99.3**	**102.6**	**109.1**
1983 Average	**101.0**	**100.4**	**100.7**	**106.4**	**103.1**	**101.3**	**101.2**	**101.8**	**108.8**	**103.6**	**109.0**	**107.8**
1982 Average	**109.3**	**110.9**	**114.3**	**113.9**	**115.1**	**110.2**	**107.8**	**110.4**	**117.4**	**111.6**	**117.6**	**116.0**
1981 Average	**115.0**	**114.9**	**118.5**	**118.3**	**118.4**	**113.2**	**109.1**	**110.4**	**118.0**	**111.4**	**116.5**	**119.4**

Source: Energy Information Administration, Petroleum Marketing Monthly, December 1989, published March 1990. (Table 16).

World Crude Oil Price Trends

(Average price (FOB), internationally traded only, weighted by estimated volume)



Spot Market Product Prices

($ per bbl.)

		Motor Gasoline		Gasoil/Heating Oil		Residual Fuel Oil	
		Rotterdam Leaded Premium (98-Octane)	New York Unleaded Regular (87-Octane)	Rotterdam (0.3% Sulfur)	New York (0.2% Sulfur)	Rotterdam (1% Sulfur)	New York (1% Sulfur)
1990							
Jan.	5	27.90	28.29	32.91	40.53	23.05	25.75
	12	26.26	28.56	26.61	32.45	22.60	25.35
	19	25.56	26.36	23.99	27.03	20.50	24.75
	26	24.50	25.77	22.92	25.45	18.92	20.00
Feb.	2	25.91	26.04	22.79	24.30	18.99	18.65
	9	26.26	25.41	22.92	23.42	18.02	18.00
	16	26.14	25.10	24.53	24.72	17.12	17.75
	23	26.03	24.99	23.66	24.51	16.52	17.65
Mar.	2	25.79	22.72	23.46	23.31	16.37	17.00
	9	25.44	22.89	22.52	24.42	15.02	16.25
	16	24.85	23.52	22.39	24.78	13.51	16.25
1989							
Jan.	6	20.16	20.31	21.25	23.04	14.94	16.65
	13	19.93	21.11	21.98	23.04	14.79	16.35
	20	20.40	22.16	21.05	23.21	15.32	16.15
	27	20.40	21.21	20.17	21.78	15.17	15.50
Feb.	3	20.81	21.00	19.64	22.47	14.56	15.00
	10	21.51	20.10	18.97	21.25	14.56	14.50
	17	21.16	19.95	18.97	21.36	14.49	14.00
	24	21.45	20.48	19.17	21.74	14.04	14.75
Mar.	3	21.81	21.53	19.30	23.35	14.34	15.00
	10	23.15	21.36	19.77	23.46	14.34	16.10
	17	23.68	23.21	20.24	24.57	14.64	17.00
	24	25.73	23.73	21.11	24.72	15.02	18.00
	31	26.26	26.46	22.12	23.46	15.99	18.25
Apr.	7	30.89	26.76	21.18	22.68	16.52	18.50
	14	30.95	28.71	21.25	22.20	16.44	18.50
	21	33.24	30.77	22.18	22.47	17.42	18.75
	28	34.41	31.19	21.18	22.37	18.02	19.00
May	5	32.18	30.45	19.71	21.57	17.64	18.65
	12	31.13	28.88	19.71	21.67	16.44	18.00
	19	29.72	27.34	19.91	21.11	16.37	17.75
	26	28.72	28.14	19.91	21.42	15.47	17.50
June	2	28.14	27.87	19.77	21.11	15.62	17.50
	9	26.55	27.72	19.84	20.69	15.24	17.25
	16	24.38	25.66	18.36	19.47	14.49	16.75
	23	23.68	26.36	19.03	20.31	14.49	15.75
	30	25.21	26.25	19.57	20.62	14.64	16.50
July	7	24.62	24.72	20.04	20.83	14.64	16.65
	14	24.21	24.89	19.50	20.62	15.54	16.95
	21	23.56	22.68	20.58	21.55	15.54	16.65
	28	22.10	21.84	20.17	20.62	15.54	16.10
Aug.	4	22.27	21.67	20.11	20.27	13.74	16.15
	11	22.51	21.84	20.58	20.58	13.74	15.75
	18	23.15	22.09	21.25	20.94	13.81	15.65
	25	23.04	22.83	21.05	21.36	13.59	15.15
Sept.	1	23.15	23.14	21.31	22.37	13.51	14.90
	8	23.15	24.09	22.32	23.04	13.74	15.00
	15	23.33	24.40	22.52	22.79	14.19	15.75
	22	24.33	26.67	23.32	23.88	14.71	16.25
	29	25.62	25.73	22.99	24.51	14.71	16.50
Oct.	6	24.68	23.88	23.46	24.15	14.71	17.50
	13	24.85	23.94	24.80	25.41	14.71	17.65
	20	23.92	23.02	25.47	24.99	16.74	17.75
	27	22.74	22.79	24.06	23.84	16.82	17.50
Nov.	3	21.92	21.67	25.13	24.95	16.82	17.50
	10	21.86	21.63	24.80	24.51	16.52	17.75
	17	22.04	21.25	25.07	24.51	16.67	17.85
	24	22.16	21.53	25.47	25.14	16.82	17.85
Dec.	1	22.16	20.90	26.41	26.19	17.87	18.00
	8	22.33	21.63	29.56	27.87	18.47	18.75
	15	22.39	21.15	28.49	29.51	18.92	20.90
	22	22.68	23.14	29.36	37.11	20.42	22.50
	29	23.86	25.41	30.56	44.67	22.37	25.00

Source: Energy Information Administration, Weekly Petroleum Status Reports.

International Prices for Gasoline and Fuel Oil

(U.S. $ per gal. for gasoline, pump retails, all taxes included. U.S. $ per gal. for distillate and kerosine but $ per bbl. for residual oil; all taxes are included except for U.S. fuel oils.)

	1/1/89					1/1/88				
	Automotive Fuels		Residential			Automotive Fuels		Residential		
Country	Leaded Premium Gasoline	Diesel Fuel	Distillate	Kerosine	Industrial Residual	Leaded Premium Gasoline	Diesel Fuel	Distillate	Kerosine	Industrial Residual
WESTERN HEMISPHERE										
Argentina	$1.85	$1.17	$.39	$.84	$NA	$1.24	$.56	$NA	$.53	$12.68
Bolivia	1.47	.97	NA	1.01	NA	1.18	.91	NA	.76	NA
Brazil	1.77	.97	.58	1.01	15.98	2.18	.94	NA	.95	16.67
Canada	1.65	1.47	1.01	1.54	16.56	1.52	1.43	.94	1.43	15.46
Chile	1.20	.94	.93	.81	17.57	NA	NA	NA	NA	NA
Colombia	.72	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dominican Republic	.56	.40	.37	.43	NA	NA	NA	NA	NA	NA
Ecuador	1.80	1.30	1.30	.30	54.60	NA	NA	NA	NA	NA
El Salvador	2.08	1.05	NA	1.14	21.00	NA	NA	NA	NA	NA
Jamaica	1.65	1.20	NA	.66	18.75	5.52	1.64	NA	.66	15.93
Mexico	.95	.74	.74	.50	9.04	.99	.77	.23	.52	7.34
Panama	1.98	1.19	NA	1.10	21.21	1.98	1.19	NA	1.10	15.37
Paraguay	1.44	.72	NA	.87	19.08	3.50	1.80	NA	2.18	47.70
Peru	2.00	.39	NA	.21	12.09	1.02	.38	NA	.11	13.62
United States	.92	.89	.63	.76	15.25	.91	.96	.62	.84	15.92
Uruguay	2.27	1.30	1.02	1.20	27.18	2.58	1.49	1.16	1.37	27.54
Venezuela	.39	.09	NA	.13	2.19	.39	.09	NA	.13	2.19
WESTERN EUROPE										
Austria	3.02	2.09	1.23	NA	NA	2.86	2.12	1.27	NA	NA
Belgium	2.80	1.50	.75	NA	15.16	2.57	1.39	.74	.58	13.72
Denmark	3.90	1.10	2.37	NA	23.00	3.72	1.05	2.27	1.78	18.97
Finland	3.16	1.86	.79	NA	18.54	3.11	1.89	.89	NA	22.43
France	3.11	1.86	1.22	NA	17.15	3.08	1.93	1.20	NA	15.28
Germany, West	2.53	1.71	.82	.75	17.02	2.18	1.75	.71	NA	16.10
Greece	2.15	1.05	1.05	1.77	28.34	2.15	1.05	1.05	NA	26.74
Ireland	3.54	2.47	1.28	NA	21.68	3.39	2.42	1.23	NA	22.92
Italy	3.91	1.82	1.99	1.67	15.15	4.09	1.77	1.86	NA	12.99
Luxembourg	2.24	1.29	.83	1.01	16.52	2.04	1.28	.75	NA	16.73
Netherlands	3.02	1.38	1.13	1.53	22.94	3.01	1.36	1.09	NA	19.91
Norway	3.27	1.06	1.09	1.13	31.03	2.89	1.14	1.05	1.12	NA
Portugal	3.25	1.94	2.02	1.74	24.67	3.25	1.95	2.02	1.89	24.07
Spain	2.45	1.62	1.06	1.80	17.57	2.58	1.71	1.12	1.70	18.74
Sweden	2.92	1.84	1.48	NA	44.39	2.68	1.64	1.11	NA	36.68
Switzerland	2.72	2.67	.77	NA	19.74	2.53	2.61	.68	NA	18.02
Turkey	1.63	1.18	.54	1.21	22.21	1.36	1.01	.72	1.04	26.46
United Kingdom	2.59	2.06	71.00	NA	16.98	2.43	1.95	.78	NA	17.48
Yugoslavia	1.25	1.03	.53	.58	12.95	2.04	1.66	NA	.76	18.81
MIDDLE EAST										
Israel	1.89	1.36	1.21	1.44	13.98	NA	NA	NA	NA	NA
Lebanon	.60	.52	.52	.50	22.99	NA	NA	NA	NA	NA
Saudi Arabia	.54	.12	NA	.20	42.40	.54	.12	NA	.21	47.67
AFRICA										
Ethiopia	2.18	1.44	NA	1.20	41.48	2.35	1.44	1.31	1.19	41.47
Ghana	1.22	1.17	NA	.89	18.33	1.11	1.06	NA	.80	22.95
Morocco	2.79	1.59	.91	1.43	32.66	2.94	1.68	NA	1.51	34.44
South Africa	1.66	1.53	NA	1.89	52.99	NA	NA	NA	NA	NA
Tunisia	1.65	NA	.82	.54	16.23	2.22	NA	.85	.71	16.96

International Prices for Gasoline and Fuel Oil

(Continued......)

(U.S. $ per gal. for gasoline, pump retails, all taxes included. U.S. $ per gal. for distillate and kerosine but $ per bbl. for residual oil; all taxes are included except for U.S. fuel oils.)

	1/1/89					1/1/88				
	Automotive Fuels		Residential			Automotive Fuels		Residential		
Country	Leaded Premium Gasoline	Diesel Fuel	Distillate	Kerosine	Industrial Residual	Leaded Premium Gasoline	Diesel Fuel	Distillate	Kerosine	Industrial Residual
ASIA-PACIFIC										
Australia	1.63	1.48	NA	1.30	NA	1.51	1.31	NA	NA	NA
Burma	2.97	2.04	NA	2.04	NA	NA	NA	NA	NA	NA
Indonesia	.84	.44	.44	.36	18.48	1.00	.45	.51	.37	NA
India	2.14	.88	NA	.56	28.92	2.15	1.01	NA	.65	33.21
Japan	3.41	2.02	1.04	1.36	27.76	3.49	2.08	1.12	1.13	30.57
New Zealand	2.31	1.78	1.74	NA	38.06	2.31	1.69	1.75	NA	38.06
Pakistan	1.76	.79	NA	.61	10.81	1.67	.83	NA	.65	11.42
Philippines	1.03	.66	NA	.66	17.31	1.39	.97	.52	.98	NA
Singapore	1.76	.75	NA	.61	10.07	1.75	.78	NA	.64	10.40
Sri Lanka	1.55	.93	NA	.76	37.70	1.66	1.00	NA	.81	19.19
Thailand	1.27	.92	NA	.75	18.38	1.34	.95	.47	.92	18.53

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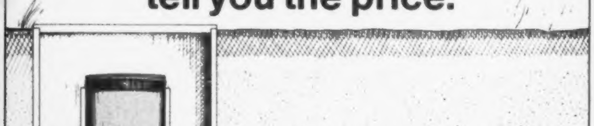
*Unleaded regular grade gasoline in Canada and U.S., unleaded premium in all other countries; ** Excludes taxes, all other countries include taxes in distillate, kerosine and residual prices; NA = Not available or not reported.

Source: International Energy Annual 1988, Energy Information Administration; gasoline and fuel oil prices are for the capital cities of each country except those of the U.S., which are the national average for the periods quoted.



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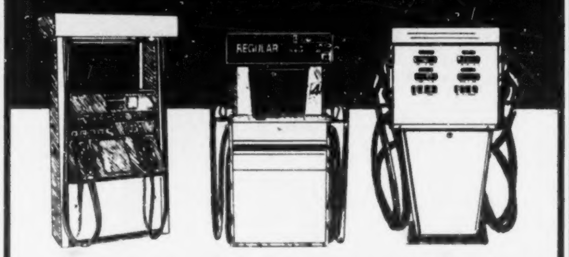

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U.S. Census: Service Stations with Payrolls 1987 vs. 1982(a)

Historically, the U.S. Census Bureau has used year-end totals as its official count for service station establishments. The 1987 Census introduced a new approach, the number of stations in existence at any given time—in other words, a peak (or variable) count. For example, note that the year-end total of gasoline establishments shown below is only 105,561 while the variable (floating) total is 114,748. The Census Bureau says the year-end count will be dropped in future censuses.

	Establishments (b)				Dollar Sales						Annual Payroll ($)			No. of Employees			Average	
	Variable		Year-End		(Add 000)		%	Per Establishment		%	(Add 000)		%			%	Per Station	
	1987	1982	1987	1982	1987	1982	Chng.	1987	1982	Chng.	1987	1982	Chng.	1987	1982	Chng.	1987	1982
Alabama	2,229	2,206	2,048	2,003	1,452,893	1,173,199	23.8	651,814	531,842	22.6	90,542	54,881	55.0	10,256	7,629	34.4	5	4
Alaska	214	188	184	176	179,436	205,846	(12.8)	838,486	1,094,926	(23.4)	16,510	15,684	5.3	1,197	1,219	(2.0)	5	6
Arizona	1,241	1,320	1,151	1,204	1,584,575	1,308,398	21.3	1,276,853	989,695	29.0	100,687	62,277	61.7	10,430	7,544	38.3	8	6
Arkansas	1,357	1,381	1,320	1,216	942,262	759,692	24.0	694,371	550,103	26.2	61,217	40,596	50.8	7,626	5,313	43.5	6	4
California	9,812	11,426	9,127	10,625	10,742,275	10,531,345	2.0	1,094,810	921,700	18.8	654,279	517,774	26.4	71,074	64,727	9.8	7	6
Colorado	1,568	1,787	1,455	1,570	1,533,021	1,429,634	7.2	976,416	800,019	22.0	96,955	70,850	36.8	10,145	9,404	7.9	7	5
Connecticut	1,671	1,884	1,531	1,728	1,656,222	1,447,769	14.4	991,156	768,458	29.0	119,781	84,407	41.9	10,898	9,969	9.3	7	5
Delaware	279	336	250	302	284,901	267,883	6.4	1,021,151	797,271	28.1	17,792	11,839	50.3	1,897	1,583	19.8	7	5
District of Columbia	115	174	96	158	129,050	180,038	(28.3)	1,122,174	1,034,701	8.5	8,568	10,124	(15.4)	917	1,137	(19.3)	8	7
Florida	5,933	5,922	5,329	5,504	5,528,589	4,775,575	15.8	931,832	796,992	16.9	340,281	243,274	39.9	37,187	29,382	26.7	6	5
Georgia	3,273	3,371	3,020	3,075	2,987,099	2,381,548	25.4	912,649	886,117	3.0	197,924	115,593	71.2	21,288	14,759	44.2	7	4
Hawaii	355	389	341	366	472,232	400,101	6.8	1,330,231	1,028,537	29.3	39,024	28,549	36.7	3,974	3,684	7.9	11	9
Idaho	558	552	512	494	443,888	352,934	25.8	795,498	639,373	24.4	26,059	16,753	55.5	3,202	2,408	33.0	6	4
Illinois	4,655	5,624	4,294	5,139	4,624,773	4,590,808	0.7	993,506	816,291	21.7	279,449	243,478	19.2	28,987	28,277	2.5	6	5
Indiana	2,854	3,476	2,634	3,167	2,640,217	2,725,444	(3.1)	925,094	784,362	17.9	154,577	129,434	19.4	17,493	16,279	7.4	6	5
Iowa	2,020	2,223	1,906	2,064	1,420,696	1,377,854	3.1	703,315	619,817	13.5	92,297	72,856	26.7	11,100	9,581	15.9	5	4
Kansas	1,576	1,650	1,320	1,547	1,140,894	1,068,672	6.8	723,918	647,680	11.8	78,130	57,704	38.5	8,238	7,127	15.6	5	4
Kentucky	2,058	2,353	1,892	2,121	1,547,016	1,552,609	(0.4)	752,806	669,842	12.4	96,077	74,814	28.8	11,559	9,682	19.4	6	4
Louisiana	1,934	2,148	1,720	1,976	1,552,367	1,537,673	1.0	802,672	715,863	12.1	90,619	78,061	16.1	10,937	10,436	4.8	6	5
Maine	673	695	613	642	551,516	388,839	42.6	819,489	559,481	46.5	37,505	20,980	78.8	3,961	2,909	36.2	6	4
Maryland	1,846	2,022	1,697	1,877	2,133,699	1,999,672	6.7	1,155,850	988,957	16.9	154,612	111,816	38.3	16,045	13,801	16.3	9	7
Massachusetts	2,738	3,902	2,541	2,963	2,516,762	2,318,660	8.5	919,197	594,223	54.7	173,734	116,426	49.2	18,077	16,662	8.5	7	4
Michigan	4,164	4,512	3,878	4,128	4,261,908	3,980,960	6.8	1,023,513	882,305	16.0	240,652	171,695	40.2	26,788	21,953	22.0	6	5
Minnesota	2,289	2,391	2,154	2,230	2,240,300	2,053,472	9.1	978,724	897,104	9.1	145,466	103,909	40.1	16,498	13,321	23.8	7	6
Mississippi	1,374	1,343	1,256	1,192	7,781,081	687,591	13.6	858,834	511,981	67.7	49,107	36,316	35.2	6,055	4,893	27.7	4	4
Missouri	3,119	3,185	2,884	3,944	2,731,085	2,228,484	22.6	869,857	699,681	24.3	175,691	117,632	49.4	19,103	14,608	30.8	5	5
Montana	548	569	493	522	403,140	387,615	4.0	735,657	681,221	8.0	25,769	21,201	21.5	2,985	2,864	4.2	5	5
Nebraska	1,163	1,200	1,077	1,129	786,392	743,238	5.8	676,175	619,635	9.1	54,480	39,206	39.0	6,043	5,158	17.2	5	4
Nevada	441	519	387	476	522,788	564,273	(7.4)	1,185,460	1,087,231	9.0	41,050	31,843	28.9	4,462	3,592	24.2	10	7
New Hampshire	534	595	499	548	491,116	397,902	23.4	919,693	668,743	37.5	33,148	20,184	64.2	3,335	2,695	23.7	6	5
New Jersey	3,791	4,530	3,433	4,159	3,140,306	3,157,557	(0.5)	828,358	697,032	18.8	213,755	162,362	31.7	22,607	20,014	13.0	6	4
New Mexico	696	854	644	770	639,911	613,590	4.3	919,412	718,489	28.0	39,822	31,647	25.8	4,510	4,159	8.4	6	5
New York	5,982	6,942	5,443	6,335	4,916,033	4,414,785	11.4	821,804	635,953	29.2	300,689	239,762	25.4	30,105	28,069	7.3	5	4
North Carolina	3,547	3,326	3,281	3,050	2,717,964	1,899,350	43.1	766,271	571,061	34.2	170,272	91,712	85.7	18,164	11,952	56.7	5	3
North Dakota	471	450	441	421	322,071	360,837	3.1	683,802	801,860	(14.7)	24,462	21,331	14.7	2,658	2,635	0.9	6	6
Ohio	5,362	6,450	4,990	5,907	4,925,010	5,309,070	(7.2)	918,502	823,112	11.6	289,710	236,958	22.3	33,703	30,740	9.6	6	5
Oklahoma	1,706	1,735	1,565	1,589	1,167,344	1,110,445	5.1	684,258	640,026	6.9	73,687	60,473	21.9	8,323	7,751	7.4	5	4
Oregon	1,352	1,655	1,201	1,492	1,043,593	1,106,679	(5.7)	787,617	668,688	17.8	67,601	58,665	15.2	8,958	7,590	18.0	7	5
Pennsylvania	5,192	6,263	4,842	5,781	4,403,251	4,272,225	3.1	848,084	682,137	24.3	271,263	207,647	30.6	31,979	29,580	8.1	6	5
Rhode Island	487	568	588	488	429,080	368,332	16.5	881,068	648,471	35.9	26,671	17,670	50.9	2,524	2,376	6.2	5	4
South Carolina	1,833	1,808	1,670	1,667	1,495,268	1,200,530	24.6	815,749	703,445	16.0	90,512	55,937	61.8	10,551	7,627	38.3	6	4
South Dakota	556	578	522	533	385,703	356,755	8.1	693,710	617,223	12.4	25,132	17,190	46.2	2,979	2,343	27.1	5	4
Tennessee	2,491	2,783	2,278	2,490	2,206,641	1,597,688	12.7	885,845	703,445	25.9	136,260	92,960	46.5	15,532	11,607	33.8	6	4
Texas	8,568	9,012	7,790	8,234	7,140,503	6,600,038	8.2	833,392	732,361	13.8	429,982	344,236	24.9	44,795	42,171	6.2	5	5
Utah	849	890	780	842	710,176	657,296	8.0	836,485	735,534	13.7	41,376	31,218	32.5	5,450	4,392	24.1	6	5
Vermont	369	397	343	359	268,569	217,379	23.5	727,829	547,554	32.9	18,432	12,339	49.4	1,941	1,731	12.1	5	4
Virginia	2,740	2,939	2,523	2,652	2,795,680	2,394,061	16.8	1,020,321	814,584	25.4	190,286	127,105	49.7	18,837	15,461	21.8	7	5
Washington	2,003	2,351	1,835	2,144	1,734,565	1,689,794	2.6	865,984	718,755	20.1	105,762	86,155	22.8	12,177	10,419	16.9	6	4
West Virginia	1,013	1,169	922	1,062	691,216	709,365	(2.6)	682,345	606,814	12.4	44,462	35,448	26.1	5,017	4,617	8.7	5	4
Wisconsin	2,735	2,896	2,581	2,701	2,282,355	2,110,502	8.1	834,499	728,765	14.5	139,510	103,665	34.6	16,760	13,921	20.4	6	5
Wyoming	415	459	384	430	305,008	398,618	(23.5)	734,959	868,448	(15.4)	22,064	22,842	(3.4)	2,363	2,475	(4.5)	6	5
TOTAL U.S.	114,748	126,688	105,561	116,188	101,997,440	94,718,664	7.7	888,882	747,771	18.9	6,413,692	4,768,497	34.5	701,690	603,886	16.2	6	5

(a) The U.S. Census Bureau makes a study of retail trades every five years. The data in this table were extracted by National Petroleum News from the state-by-state reports published in the spring, summer and fall of 1989. These are "true" service stations, which generate more than half of their revenues from the sale of gasoline and petroleum products—thus they do not include facilities at convenience stores, car washes, etc.; these are stations with payrolls and are comparable to the 1982 census reports.

Service Stations With Payrolls—Populations And Sales By State

With the resumption of publication of the annual report, "Franchising in the U.S. Economy 1988-1990," ***NPN*** **is once again able to project service station population details on a state-by-state basis.** Dropped by the federal government, the franchising report has been taken over by private interests which plan to continue it indefinitely. The current study, released in January of this year, offers percentage changes on a national basis for 1988, 1989 and 1990. These are extrapolated on a state-by-state basis, using the official 1987 census figures as the starting point. Since the Census Bureau counts only those stations that get 50% or more of their business dollars from gasoline and oil products, the totals are limited in perspective and do not include gasoline outlets at convenience stores, garages, repair centers, dealerships and independent operations.

	Total Gasoline Service Stations				Dollar Sales (add 000) Estimates			U.S. Census
	1990(a)	1989(a)	1988(a)	1987(b)	1990(a)	1989(a)	1988(a)	1987(b)
Alabama	1,173	1,176	1,198	2,229	$1,640,171	$1,547,331	$1,452,893	$1,452,893
Alaska	208	209	211	214	202,565	191,099	179,436	179,436
Arizona	1,206	1,210	1,222	1,241	1,788,827	1,687,572	1,584,575	1,584,575
Arkansas	1,321	1,325	1,338	1,357	1,064,510	1,004,255	942,962	942,962
California	9,549	9,578	9,675	9,812	12,126,954	11,440,523	10,742,275	10,742,275
Colorado	1,527	1,531	1,546	1,568	1,730,627	1,632,667	1,533,021	1,533,021
Connecticut	1,627	1,632	1,648	1,671	1,869,709	1,763,876	1,656,222	1,656,222
Delaware	271	272	275	279	321,625	303,420	284,901	284,901
D.C.	112	112	113	115	145,685	137,438	129,050	129,050
Florida	5,775	5,792	5,850	5,933	6,241,224	5,887,947	5,528,589	5,528,589
Georgia	3,187	3,196	3,228	3,273	3,372,034	3,181,165	2,987,009	2,987,009
Hawaii	346	347	350	355	533,103	502,927	472,232	472,232
Idaho	543	545	550	558	501,105	472,741	443,888	443,888
Illinois	3,543	3,554	3,590	4,655	5,220,906	4,925,382	4,624,773	4,624,773
Indiana	2,778	2,786	2,814	2,854	2,980,541	2,811,831	2,640,217	2,640,217
Iowa	1,966	1,972	1,992	2,020	1,603,824	1,513,041	1,420,696	1,420,696
Kansas	1,534	1,539	1,554	1,576	1,287,955	1,215,052	1,140,894	1,140,894
Kentucky	2,003	2,009	2,029	2,058	1,746,426	1,647,572	1,547,016	1,547,016
Louisiana	1,882	1,888	1,907	1,934	1,752,467	1,653,271	1,552,367	1,552,367
Maine	655	657	664	673	622,606	587,365	551,516	551,516
Maryland	1,797	1,802	1,820	1,846	2,386,154	2,251,088	2,133,699	2,133,698
Massachusetts	1,695	2,703	2,730	2,738	2,841,173	2,680,352	2,516,762	2,516,762
Michigan	4,053	4,065	4,106	4,164	4,811,268	4,535,932	4,261,908	4,261,908
Minnesota	2,228	2,235	2,257	2,289	2,529,075	2,385,920	2,240,300	2,240,300
Mississippi	1,338	1,342	1,355	1,374	881,762	831,851	781,081	781,081
Missouri	3,035	3,044	3,075	3,119	3,083,122	2,908,566	2,731,085	2,731,085
Montana	533	535	540	548	455,105	420,344	403,140	403,140
Nebraska	1,133	1,136	1,147	1,163	887,758	837,567	786,392	786,392
Nevada	430	431	435	441	590,175	556,769	522,788	522,788
New Hampshire	521	522	527	534	554,421	523,039	491,116	491,116
New Jersey	3,890	3,701	3,738	3,791	3,545,091	3,344,426	3,140,306	3,140,306
New Mexico	677	679	686	696	722,396	681,505	639,911	639,911
New York	5,822	5,839	5,898	5,982	5,549,710	5,235,575	4,916,033	4,916,033
North Carolina	3,452	3,462	3,497	3,547	3,068,310	2,894,632	2,717,964	2,717,964
North Dakota	458	459	464	471	374,875	353,656	322,071	322,071
Ohio	5,218	5,234	5,287	5,362	5,446,954	5,138,636	4,825,010	4,825,010
Oklahoma	1,660	1,665	1,682	1,706	1,317,815	1,243,221	1,167,344	1,167,344
Oregon	1,317	1,321	1,334	1,352	1,178,112	1,111,427	1,043,593	1,043,593
Pennsylvania	5,053	5,068	5,119	5,192	4,970,083	4,689,462	4,403,251	4,403,251
Rhode Island	470	471	476	487	484,388	456,970	429,080	429,080
South Carolina	1,784	1,789	1,807	1,833	1,688,008	1,592,460	1,495,268	1,495,268
South Dakota	541	543	548	556	435,420	410,774	385,703	385,703
Tennessee	2,425	2,432	2,456	2,491	2,491,077	2,350,073	2,206,641	2,206,641
Texas	8,339	8,364	8,448	8,568	8,060,914	7,604,636	7,140,503	7,140,503
Utah	817	819	827	849	801,718	756,337	710,176	710,176
Vermont	359	360	364	369	303,187	286,026	268,569	268,569
Virginia	2,667	2,675	2,702	2,740	3,156,043	2,977,399	2,795,680	2,795,680
Washington	1,949	1,955	1,975	2,003	1,958,150	1,847,312	1,734,565	1,734,565
West Virginia	986	989	999	1,013	780,314	736,145	691,216	691,216
Wisconsin	2,662	2,670	2,697	2,735	3,366,781	3,176,208	2,982,355	2,982,355
Wyoming	404	405	409	415	344,414	324,919	305,088	305,088
Total U.S.	**111,657**	**112,011**	**113,142**	**114,748**	**$115,144,910**	**$108,627,273**	**$101,997,440**	**$101,997,440**

(a) Projected by *NPN* on the basis of the 1987 Census of Retail Trade by the Dept. of Commerce and "Franchising in the Economy 1988-1990," formerly published by the Commerce Dept. but not under the jurisdiction of International Franchising Assn., Washington, D.C. It should be borne in mind that the Commerce Dept. counts only those stations with payrolls and skips all that do not get 50% or more of their business dollars from gasoline and oil products.

(b) U.S. Census Bureau, Retail Trade Census, 1987, published in 1989.

Gasoline Shares by Key Categories—1989

A study of U.S. retail gasoline market shares was undertaken in 1985 by MPSI Inc., a Tulsa, Okla. firm specializing in international computer software and information services as well as market research and planning. Shown below is MPSI's updated study covering the year 1989.

Included with the data on regional and national market shares for 1989 (see table below) are the comparable figures for 1988. This comparison offers indications of the trends within the various outlet groupings.

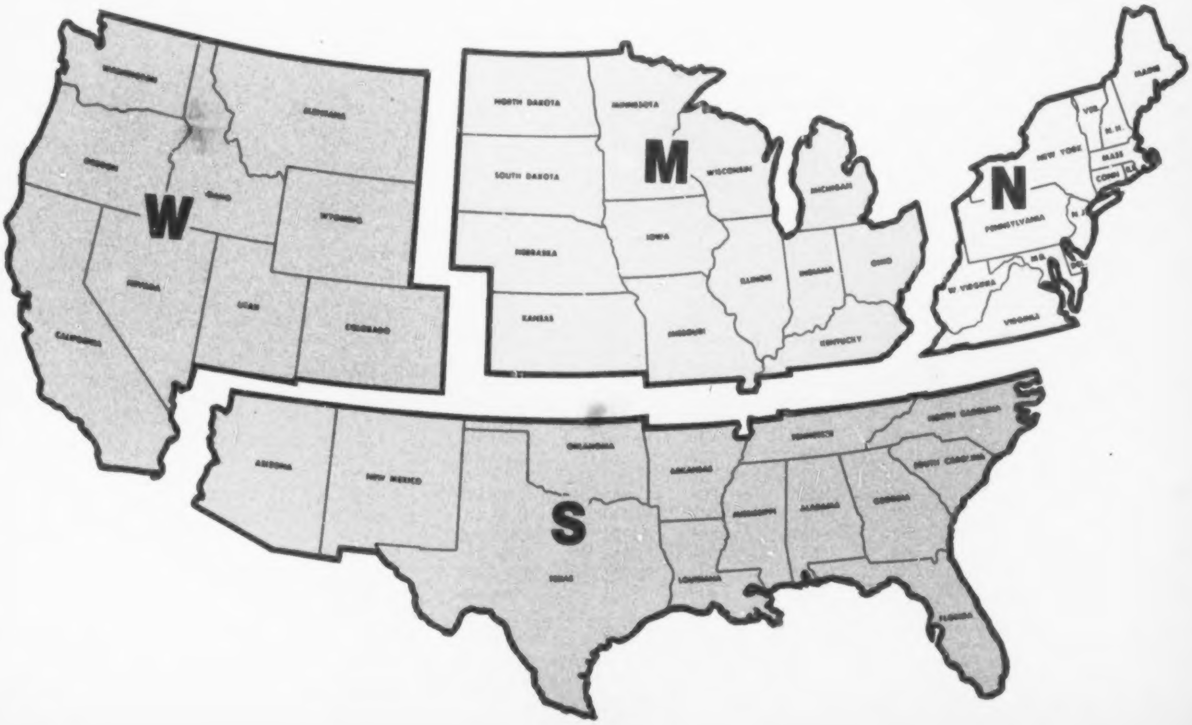
The study breaks out, on both a national and regional basis, market shares and percentage of outlets for conventional service stations, volume pumpers, convenience stores that sell gasoline, plus a catch-all category of "others" including car washes, garages and other facilities.

This study covers primarily the metropolitan areas of the U.S. where most gasoline is marketed. No attempt was made to count rural vendors or highway units which, while important to the industry, do not add significantly to overall consumption.

U.S. Regional and National Market Shares

	Service Stations		Pumpers		Convenience Food Stores		Others		Total	
	1989	1988	1989	1988	1989	1988	1989	1988	1989	1988
Northeastern Region										
• % of Outlets	61.0	64.9	21.7	19.7	6.2	5.0	11.1	10.4	100.0	100.0
• % of Volume	55.9	58.0	38.5	36.6	3.4	2.8	2.2	2.6	100.0	100.0
• Avg. Monthly Volume (Gallons)	64,132	58,378	123,818	120,998	38,591	36,762	14,252	16,048	69,996	65,252
Midwestern Region										
• % of Outlets	36.0	38.4	44.2	42.5	8.3	7.2	11.5	11.9	100.0	100.0
• % of Volume	27.9	31.3	62.5	61.6	6.8	4.1	2.8	3.0	100.0	100.0
• Avg. Monthly Volume (Gallons)	59,197	58,959	107,771	104,937	43,077	41,472	18,327	18,154	76,256	72,369
Sunbelt Region										
• % of Outlets	24.4	25.3	32.6	32.2	32.2	31.3	10.8	11.2	100.0	100.0
• % of Volume	23.5	24.3	57.1	56.5	16.0	15.5	3.4	3.7	100.0	100.0
• Avg. Monthly Volume (Gallons)	55,943	55,853	101,915	101,761	28,934	28,734	18,176	18,902	58,173	58,029
Western Region										
• % of Outlets	45.8	48.3	34.1	32.2	11.9	10.6	8.2	8.9	100.0	100.0
• % of Volume	45.2	46.3	47.5	46.4	5.3	4.9	2.0	2.4	100.0	100.0
• Avg. Monthly Volume (Gallons)	65,056	60,868	120,367	113,735	38,188	36,769	20,987	21,560	81,352	79,108
Total United States										
• % of Outlets	39.8	42.2	32.3	30.9	17.4	16.3	10.5	10.6	100.0	100.0
• % of Volume	37.7	39.9	51.2	50.0	8.5	7.7	2.6	3.0	100.0	100.0
• Avg. Monthly Volume (Gallons)	61,669	58,021	110,898	108,226	33,948	31,387	17,631	18,552	70,023	66,740

Source: MPSI Inc., Tulsa, Oklahoma.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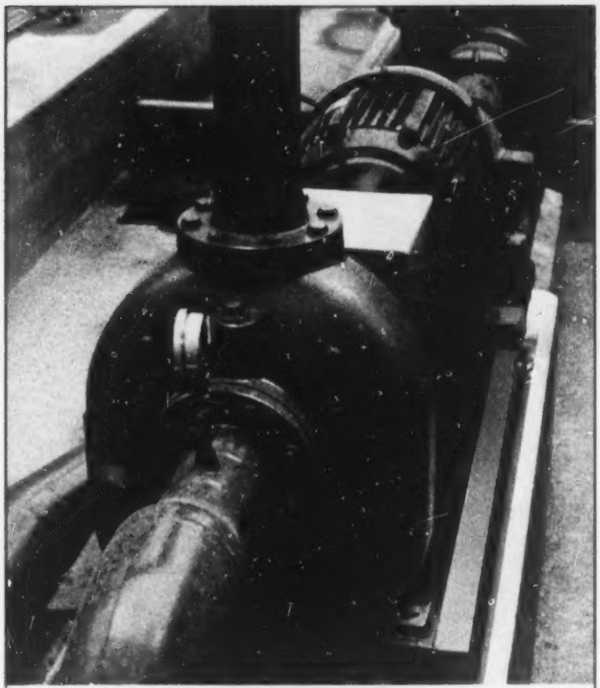

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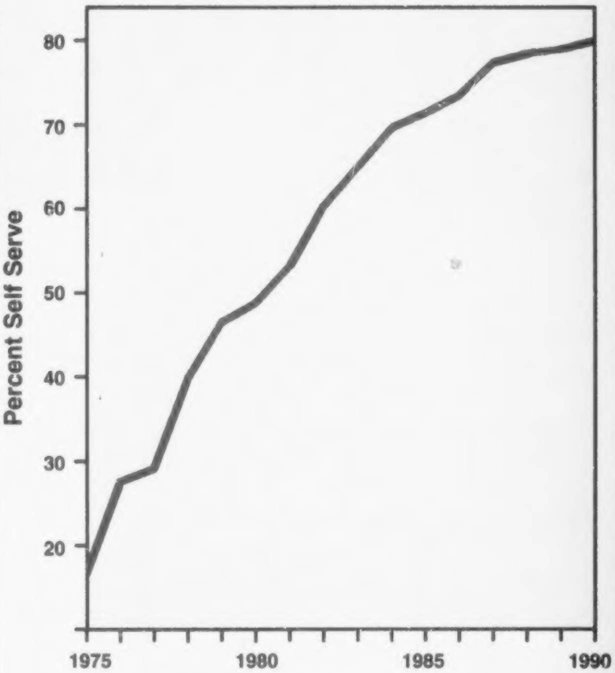
Self Serve Increases

American motorists continue to choose self sevice over full service when purchasing gasoline. Since 1975, self service gasoline sales have consistently increased at record rates from 22% to 80% last year, according to Amoco Oil Co. marketing research.

The market share for self serve last year jumped one percentage point from the previous year and represents an increase of more than six percentage points since 1984.

U.S. Self-Serve Motorist Gasoline Market Share (%)



Self-Serve Motorist Gasoline Market Share by State (%) 1989 vs. 1988

State[a]	1989	1988	chg.
Alabama	83%	83%	NC
Arizona	94	93	+1
Arkansas	85	83	+2
California	92	91	+1
Colorado	94	93	+1
Connecticut	74	72	+2
Delaware	86	85	+1
D.C.	87	83	+4
Florida	92	91	+1
Georgia	89	88	+1
Idaho	90	89	+1
Illinois	90	88	+2
Indiana	88	88	NC
Iowa	85	85	NC
Kansas	84	82	+2
Kentucky	80	79	+1
Louisiana	91	90	+1
Maine	57	53	+4
Maryland	87	86	+1
Massachusetts	53	52	+1
Michigan	89	87	+2
Minnesota	84	83	+1
Mississippi	83	82	+1
Missouri	85	83	+2
Montana	91	91	NC
Nebraska	82	81	+1
Nevada	94	93	+1
New Hampshire	68	65	+3
New Mexico	92	92	NC
New York	60	59	+1
North Carolina	89	88	+1
North Dakota	81	78	+3
Ohio	87	86	+1
Oklahoma	86	86	NC
Pennsylvania	68	66	+2
Rhode Island	69	66	+3
South Carolina	90	89	+1
South Dakota	80	81	-1
Tennessee	85	85	NC
Texas	92	92	NC
Utah	95	94	+1
Vermont	62	59	+3
Virginia	90	90	NC
Washington	92	91	+1
West Virginia	78	75	+3
Wisconsin	90	89	+1
Wyoming	85	86	-1
All States	81	80	+1

Note: Self-Serve is illegal in New Jersey and Oregon.
Source: Amoco Oil, Monthly Survey.

Business at Service Stations

Dollar Volume and Product Sales

Year	No. of service stations(a)	Total sales (add 000,000,000)	Avg. sales per station (add 000)	Passenger car population (add 000)	Gasoline: Avg. gal. consumed per car per year	Gasoline: Total consumption (add 000,000 gal.)
1989	111,700	$115.0	$1,030	144,375	500(b)	72,188
1988	112,000	91.9	821	142,209	507(b)	72,099
1987	115,870	89.2	770	140,693	515(b)	72,457(b)
1986	120,510	86.6	719	135,431	525(b)	71,101(b)
1985	124,600	100.8	809	131,864	525(b)	69,229(b)
1984	132,080	101.0	765	128,270	536(b)	68,914(b)
1983	136,570	103.1	755	126,727	553(b)	70,080(b)
1982	144,690	106.2	733	123,746	566(b)	70,040(b)
1981	151,250	101.7	672	123,462	576(b)	71,114(b)
1979	164,790	70.9	430	120,248	653(b)	78,522(b)
1977	176,465	56.5	320	113,696	716(b)	81,406(b)
1975	189,480	43.8	232	106,712	716(b)	76,406(b)
1972(c)	226,459	33.7	149	96,567	785(b)	75,805(b)

(a) Franchising in the Economy 1986-88, Dept. of Commerce; by definition of Census Bureau these are stations that get 50% or more of gross sales from petroleum products; (b) In September 1987, Federal Highway Administration revised its gallonage consumption data and re-calculated the averages back to 1970, thus these figures are not comparable with prior data in *NPN Factbook*; (c) Peak year for service stations.

Sources: Franchising in the Economy, 1988-1990; Federal Highway Administration and *NPN*.

Station Customers

Year	No. of service stations(a)	Privately owned passenger cars: Total (add 000)	Privately owned passenger cars: Avg. per station	Households owning cars: Total (add 000,000)	Households owning cars: Avg. per station	Licensed drivers: Total (add 000,000)	Licensed drivers: Avg. per station	Women drivers: Total (add 000,000)	Women drivers: Avg. per station
1989	111,700	144,375	1,293	78.5	703	164.9	1,476	79.7	706
1988	112,000	142,209	1,270	78.0	696	164.2	1,466	78.9	704
1987	115,870	139,041	1,200	77.0	665	161.8	1,396	77.8	671
1986	120,510	135,431	1,124	76.0	631	159.4	1,323	76.2	632
1985	124,600	132,108	1,060	75.0	602	156.9	1,259	75.3	604
1984	132,080	128,270	971	74.0	560	155.4	1,176	74.3	562
1983	136,570	126,727	927	73.0	534	154.2	1,129	73.4	537
1982	144,690	123,746	855	72.0	497	150.3	1,038	71.7	491
1981	151,250	123,462	816	70.0	460	147.0	969	69.2	457
1979	164,790	120,248	731	65.9	400	143.3	868	66.8	403
1977	176,465	113,696	644	63.3	365	138.4	784	63.7	361
1975	189,480	106,712	563	60.5	319	127.8	662	56.8	294
1972(b)	226,459	96,567	426	52.8	232	118.4	522	52.6	232

(a) Franchising in the Economy 1988-90, Dept. of Commerce; Bureau of Census definition of service stations: 50% or more of dollar volume comes from the sale of petroleum products; (b) Peak year.

Sources: Based on data from Motor Vehicle Mfgs. Assn., Federal Highway Administration and *NPN*.

How Stations Rank in Sales (Billions of Dollars)

	1989	% Change '89-'88	1988	% Change '88-'87	1987	% Change '87-'86	1986	% Change '86-'85
All Retail Stores	$1,711.0	5.0%	$1,629.1	7.8%	1,510.6	5.1%	1,437.5	4.2%
Automotive Group	376.4	2.0	369.0	12.9	326.9	2.1	320.3	2.7
Food Group	355.2	6.9	331.9	5.7	314.3	4.1	301.8	6.3
General Merchandise	193.7	5.4	183.8	4.5	175.9	6.5	165.1	10.4
Eating and Drinking Places	164.8	4.6	157.5	6.7	147.6	9.1	135.3	1.4
Gasoline Service Stations	**109.5**	**7.5**	**101.9**	**(1.4)**	**103.2**	**6.1**	**97.3**	**(0.0)**
Apparel Group	91.3	11.3	82.0	2.3	79.1	5.7	74.8	0.7

Source: Survey of Current Business, Dept. of Commerce, Vol. 70, No. 1, January 1990.

Personal Consumption Expenditures

	(Billions of Dollars) 1989	% Change '89-'88	1988	% Change '88-'87	1987	% Change '87-'86	Seasonally Adjusted at Annual Rate—1988: 1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
Total Expenditures	$3,470.3	7.3%	$3,235.1	7.7%	$3,012.1	7.6%	$3,381.4	$3,441.1	$3,508.1	$3,547.5
Durable Goods	473.6	4.2	455.2	7.8	421.9	4.8	466.4	471.0	486.1	471.0
Automobiles	214.0	1.1	211.6	8.2	195.8	0.5	215.3	211.7	212.9	225.6
Furniture	173.7	7.2	162.0	10.6	148.3	6.0	172.1	173.5	173.9	175.2
Other Durable	85.9	5.3	81.6	4.9	77.8	15.1	82.6	84.6	86.7	89.9
Nondurable Goods	1,122.6	6.7	1,052.3	5.5	997.9	6.2	1,098.3	1,121.5	1,131.4	1,139.1
Food	595.0	6.3	559.7	6.4	526.4	5.7	587.3	592.2	588.1	602.2
Clothing and Shoes	199.9	7.0	186.8	4.7	178.2	6.4	195.0	198.9	202.2	203.7
Gasoline and Oil	**83.5**	**8.7**	**76.8**	**(0.2)**	**77.0**	**2.3**	**77.9**	**89.5**	**85.2**	**81.4**
Other Nondurable Goods	244.2	6.6	229.0	5.9	216.3	8.8	238.1	241.0	245.9	251.8
Fuel Oil and Coal	20.2	3.6	19.5	20.4	16.2	1.3	18.7	19.6	19.9	22.8
Other Nondurable	223.9	6.9	209.5	4.7	200.1	9.5	219.4	221.4	226.0	229.0
Services	1,874.1	8.5	1,727.6	8.5	1,592.3	9.2	1,816.7	1,851.7	1,890.6	1,937.5

Source: Survey of Current Business, Dept. of Commerce, Vol. 70, No. 1, January 1990.

Retail Rankings: Still More Attrition

There were a few changes in the 1989 branded retail outlet rankings of the major and semi-major oil companies, but the major trend apparent in the data reported to NPN by 21 companies is the continued weeding out of retail properties by the majority of reporting firms.

In 1989, 13 companies reported decreases totalling 7,528 outlets in their station populations from the previous year, while only six companies said they had increased their station count during the year—a total of 3,753 additional units. Thus, the net loss of stations among all the companies was 3,775. Not all those stations were closed, of course; many were acquired by smaller marketers and dealers in markets being abandoned by the majors as they strive to find the most efficient and profitable retail marketing mix.

Notable gainers in the retail outlet count include Texaco, which added 1,501 outlets and four states to its marketing network in 1989. Texaco now markets in 49 out of the 50 states and leads all companies in both station counts and market coverage. Denver-based Total Petroleum is also on an aggressive growth campaign, almost doubling its 1988 station count and moving up to No. 15 in the station rankings.

		Outlets	*1988*
1	**Texaco**	16,890	(1)
2	**Exxon**	12,091	(2)
3	**Unocal**	11,000	(5)
4	**Chevron**	10,682	(3)
5	**Amoco**	9,909	(7)
6	**Shell**	9,763	(6)
7	**Mobil**	9,486	(4)
8	**Phillips**	8,656	(8)
9	**Citgo**	8,463	(9)
10	**BP America**	7,464	(10)
11	**Sun**	6,445	(11)
12	**Conoco**	4,915	(12)
13	**Gulf (Cumberland Farms)**	4,091	(13)
14	**American Petrofina**	3,177	(14)
15	**Total**	2,776	(20)
16	**Marathon**	2,516	(15)
17	**Getty**	2,240	*
18	**Diamond Shamrock**	1,947	(17)
19	**Ashland**	1,800	(16)
20	**Kerr-McGee**	1,786	(18)
21	**Arco**	1,699	(19)

*Not reported in 1988

	Number of States		Branded retail outlets	
	'89	'88	'89	'88
American Petrofina	23	24	3,177	3,458
Amoco	31	30	9,909	10,246
Arco	5	5	1,699	1,673
Ashland	18	19	1,800	2,110
BP America	26	28	7,463	7,413
Chevron	33	33	10,682	11,969
Citgo	42	40	8,463	7,697
Conoco	37	37	4,915	4,843
Diamond Shamrock	8	8	1,947	1,973
Exxon	38	37	12,091	12,456
Getty	13	*	2,240	*
Gulf (Cumberland Farms)	14	12	4,091	4,463
Kerr-McGee	20	21	1,786	1,941
Marathon	8	8	2,516	2,527
Mobil	33	36	9,486	11,074
Phillips	35	33	8,656	9,757
Shell	40	41	9,763	10,847
Sun	28	28	6,445	7,058
Texaco	49	45	16,890	15,389
Total	22	20	2,776	1,439
Unocal	43	43	11,000	10,926

Source: NPN questionnaires

Shell Has Big Edge in Credit Card Sales

(Editor's Note: Information on 1989 credit card sales was not available at presstime. For reference purposes, NPN is reprinting the data published in the 1989 Factbook. When the new data is available, it will appear in a regular monthly issue of NPN.)

Shell Oil Co., the nation's largest gasoline retailer the past few years in market share, was also tops in terms of proprietary oil company credit card sales and total credit volume in 1988.

According to the Nilson Report, a newsletter for credit card executives in the petroleum and other industries, Shell billed out more than $3.25-billion to the company's cardholders and had a total of $3.6-billion in credit charges in 1988. Shell also sends out the most statements to active accounts each month (5.1-million). Amoco, however, has the most company cards in circulation—16-million to Shell's 15.3-million—and was second to Shell in total credit volume at almost $3-billion.

Overall, the 40 companies included in the report did over $21.8-billion in proprietary card sales in 1988, an increase of 4% over the previous tabulation. Total transactions remained steady at 1.46-billion last year as did the number of oil company proprietary cards (118-million).

Although they represent little over one fifth of the total, charges for gasoline outlet purchases increased dramatically (up 37%) for third-party cards, the report says. Bank card volume is up 41% while volume for the Discover card jumped from $18.8-million to $256-million. Discover, of course, is a new player in the plastic marketplace.

The Nilson Report is published monthly. For information, write P.O. Box 49936, Los Angeles, CA 90049.

Profile: 40 Oil Company Credit Cards in the U.S.—1988

(Add 000 in all categories)

Company	Active Accounts(a)	Total Proprietary Accounts	Proprietary Sales Volume	Bank Card Sales Volume	T&E Sales Volume	Discover Cards	Other Cards(b)	Total Credit Sales(c)
Shell*	5,100	15,300	$3,250,000	$363,000	—	$1,500	$3,000	$3,617,500
Chevron	3,600	11,500	$2,600,000	$350,000	$10,000	$2,600	—	$2,962,600
Mobil*	3,600	14,000	$2,100,000	$300,000	$80,000	—	—	$2,480,000
Amoco*	3,450	16,000	$2,418,000	$357,000	$199,000	—	$5,000	$2,979,000
Exxon*	3,200	12,100	$2,450,000	$219,000	$5,000	$7,000	—	$2,681,000
Texaco*	3,150	13,300	$2,200,000	$400,000	$200,000	$50,000	$50,000	$2,900,000
Unocal	2,100	7,000	$1,850,000	$250,000	$68,000	$19,000	—	$2,187,000
Sohio	2,000	5,000	$1,200,000	$85,000	—	$12,000	—	$1,297,000
Phillips	1,100	4,500	$900,000	$200,000	—	$25,000	—	$1,125,000
Sunoco*	950	4,700	$750,000	$115,000	$30,000	$10,000	—	$905,000
Citgo	750	3,650	$295,000	$108,000	—	$3,500	—	$406,500
Gulf	478	3,325	$280,000	$63,500	—	$4,700	—	$348,200
Conoco	353	1,800	$305,000	$65,000	—	$76,000	—	$446,000
Diamond*	352	1,250	$290,000	$52,000	$3,200	$2,500	—	$347,700
Marathon	300	1,100	$223,000	$23,500	—	$3,500	—	$250,000
Total	180	945	$155,000	$110,000	—	$9,000	—	$274,000
Fina	161	722	$106,000	$30,500	$45	$5,100	$1,000	$142,645
Ashland	120	330	$100,000	$60,000	—	$11,000	—	$171,000
Kerr/McGee	114	565	$56,000	$15,000	—	$600	—	$71,600
Sinclair	84	357	$59,000	$18,000	—	$2,900	$1,000	$80,900
Crown	77	175	$42,000	$40,000	—	$1,000	$1,000	$84,000
Beacon	67	242	$45,000	$2,000	$35	$100	—	$47,135
Coastal	60	200	$35,000	$15,100	—	$1,600	—	$51,700
Tenneco	40	113	$27,000	$22,597	—	$5,016	$644	$55,257
Cenex	30	195	$21,000	$3,000	—	—	$80	$24,080
Getty	12	35	$20,000	$59,000	—	$495	—	$79,495
Tesoro	9	42	$7,000	$1,400	—	$110	—	$8,510
Emro	9	44	$23,000	$4,000	—	—	—	$27,000
Kent	6	23	$3,000	$1,000	—	—	—	$4,000
Aloha	5	23	$3,000	$1,000	—	—	—	$4,000
Sing	5	14	$4,000	$4,043	—	$60	—	$8,103
Canal	3	11	$2,000	—	—	—	—	$2,000
Gibble	3	10	$2,000	$680	—	$100	—	$2,780
MFA	2	5	$2,000	$2,800	—	$2,000	—	$6,800
Kwik Fill	2	5	$30,000	$4,000	—	—	—	$34,000
Certified	2	8	$2,000	—	—	—	—	$2,000
Illico	2	4	$1,000	$1,000	$30	$50	—	$2,080
Iowa	1	2	$2,000	$3,600	—	$25	$30	$5,655
Coast	1	1	$2,000	$1,700	—	$15	$35	$3,750
E-Z Serve	1	5	$1,000	$5,000	—	—	$3,000	$9,000
Totals (top 10)	**28,250**	**103,400**	**19,718,000**	**2,639,000**	**592,000**	**127,100**	**58,000**	**23,134,100**
Totals (top 20)	**31,142**	**117,414**	**21,317,000**	**3,174,500**	**595,245**	**245,900**	**60,000**	**25,672,645**
Grand total (40)	**31,478**	**118,599**	**21,861,000**	**3,356,420**	**595,310**	**256,471**	**64,789**	**26,133,990**

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*Includes annual-fee cards. (a) Active accounts equal the number of statements mailed monthly. (b) Other cards include third-party fleet cards and government cards. (c) Total credit sales does not include $2.2-billion generated on general purpose cards at convenience stores that do not offer proprietary credit.

Source: The Nilson Report, January 1989.

C-Store Sales Up, But Profits Plummet

It was a dramatically mixed picture for the convenience store industry in 1989. Total C-store sales were up, the number of stores increased, but total industry profits before taxes took a dizzying nosedive, dropping 77% below the 1988 level.

According to preliminary data from the soon-to-be released 1990 State of the Convenience Store Industry report from the National Assn. of Convenience Stores, industry profits fell from $1.163-million in 1988 to $271 million in 1989. Hardest hit were some of the largest firms such as Southland and Circle K who are saddled with huge debt loads. On average, NACS says, companies operating fewer than 200 stores were four times more profitable than their larger competitors.

There were some bright spots in the picture, however. Total 1990 industry sales, including gasoline, were $67.7-billion, up 10.6% from the previous year. Gasoline sales were particularly strong increasing 20% to $27.1-billion. Merchandise sales rose 3.6% to $40.6-billion. Average monthly gallonage was up 10% to 56,000 gal. in 1989. NACS reports that 65% of all stores now sell gasoline.

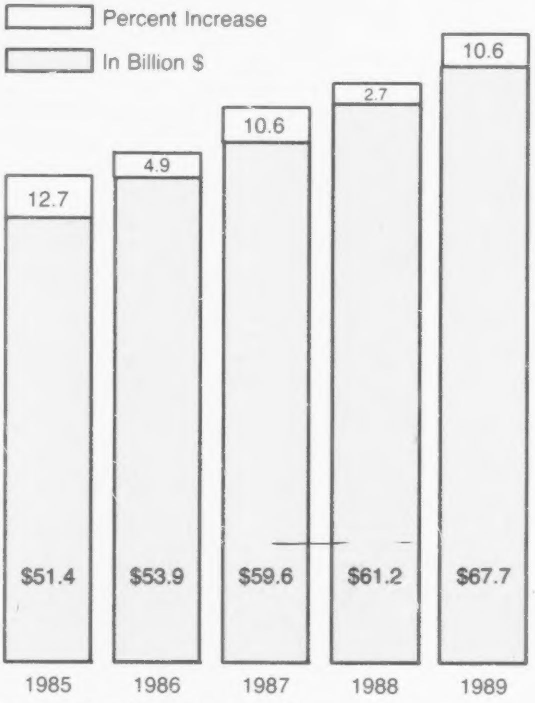
The total store count increased by 1.4% to 70,200 last year. The average investment for a new urban store was 19% to $918,700.

Meanwhile, NACS's earlier 1989 survey shows that C-store gross margins edged up in 1988 for both gasoline and merchandise (see table below).

C-Store Gross Margin As a Percent of Sales

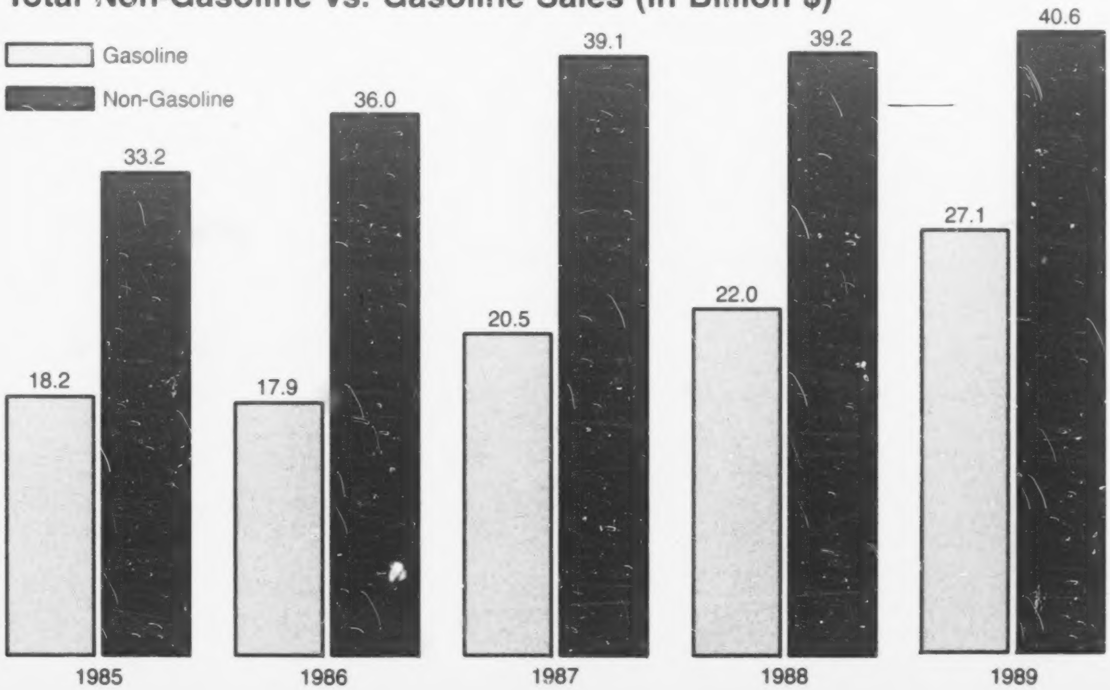
Survey Year	Gasoline Margin %	Non-Gasoline Margin %	Average Margin %
1988	11.5	36.4	26.2
1987	10.6	35.9	24.4
1986	11.2	35.5	25.1
1985	7.3	32.2	22.8
1984	6.0	32.0	21.6

Total Convenience Store Industry Sales



Source: NACS "1990 State of the Industry Report."

Total Non-Gasoline vs. Gasoline Sales (in Billion $)



Industry Averages by Product Category

	Percent Of Non-Gas Purchases				Gross MarginPercentage		Inventory Turnover Rate
	1988	1987	1986	1985	1988	1987	1988
Cooler							
Beer (Hot & Cold)	11.5%	13.6%	13.9%	27.0%	27%	27%	23.4
Soft Drinks (Hot & Cold)	8.9	9.7	10.3	10.2	37	35	15.2
Juices	1.9	1.2	1.4	1.0	38	40	15.9
Milk & Milk Products	5.5	5.8	5.9	6.6	22	23	54.3
Packaged Deli	0.7	0.9	0.8	1.2	36	34	17.0
Produce	0.3	0.7	0.6	0.4	23	26	52.0
Eggs	0.2	0.3	0.3	0.4	22	26	23.1
Frozen							
Frozen Food	0.6	0.6	0.7	0.7	37	36	6.1
Ice Cream	1.4	1.3	1.4	1.6	40	39	13.6
Ice	0.8	0.8	1.0	0.9	53	56	20.4
Room Temp.							
Bread & Cakes	3.4	3.3	3.3	3.5	30	29	73.1
Cookies	0.7	0.7	0.9	0.8	36	36	10.9
Salty Snacks (Chips, Nuts, etc.)	4.1	4.2	3.9	3.7	36	36	21.4
Candy & Gum	5.0	5.3	4.9	4.9	43	42	17.1
Groceries	5.0	5.6	5.6	5.9	37	35	8.1
Health & Beauty Aids	2.7	3.0	3.0	3.4	39	38	7.7
Tobacco	21.5	20.7	19.8	17.8	30	29	16.7
Publications	4.1	3.7	3.7	5.4	20	20	14.3
Wine/Liquor	1.8	1.3	1.4	1.3	32	30	7.9
Automotive/Motor Oil	1.0	1.4	0.9	0.7	38	40	9.4
General Merchandise	3.7	2.8	2.1	2.6	39	41	7.9
Fast Food							
Sandwiches—Fresh	2.1	1.8	1.3	1.7	41	41	70.7
Sandwiches—Frozen	1.2	1.2	1.3	1.4	37	37	41.5
Deli Services (excluding sandwiches)	3.5	3.0	3.3	3.0	40	45	28.0
Food Cooked On-site	1.5	0.8	0.4	0.3	48	42	83.2
Fountain Drinks	2.8	2.4	3.6	2.6	64	60	15.6
Frozen Beverages	1.1	0.9	0.9	0.9	57	43	8.0
Hot Beverages	1.4	2.1	2.7	1.6	68	66	37.1
Other Fast Food	1.4	0.9	0.9	1.6	38	39	67.9
Total Non-Gas Merchandise	**100%**	**100%**	**100%**	**100%**			**9.5**

Source: NACS "1989 State of the Convenience Store Industry" survey.

Comparison of Profits and Losses: 1987-1988

	11-50 Stores		51-100		101-500		Over 500		Average	
	1988	1987	1988	1987	1988	1987	1988	1987	1988	1987
Merchandise Sales	36%	43%	46%	54%	54%	58%	71%	70%	61%	66%
Gas Sales	64	57	54	46	46	42	29	30	39	34
Total Sales	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Cost of Goods Sold	81.4	80.5	78.7	77.5	77.6	76.6	73.4	74.1	73.8	75.6
Gross Profit	18.6	19.5	21.3	22.5	22.4	23.4	26.6	25.9	26.2	24.4
Direct Store Operating Expense	13.6	14.3	16.5	16.8	16.8	17.9	20.2	19.0	19.9	18.2
Store Operating Profit	5.1	5.2	4.8	5.7	5.6	5.5	6.3	6.9	6.3	6.2
Corporate G&A	(3.6)	(3.2)	(3.4)	(3.7)	(3.2)	(4.2)	(3.9)	(4.4)	(3.9)	(4.2)
Other Income	.08	1.3	1.3	1.3	.07	1.3	1.9	1.4	1.8	1.5
Other Expense	(.04)	(0.4)	(.05)	(.08)	(.04)	(.09)	(2.5)	(1.7)	(2.3)	(1.3)
Pretax Profit	1.8%	2.9%	2.2%	2.5%	2.7%	1.7%	1.8%	2.2%	1.9%	2.2%

Source: NACS "1989 State of the Convenience Store Industry" survey.

Average Investment per New Convenience Store

	1988		1987		1986		1985		1984	
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
Land	$350,500	$148,000	$266,000	$156,900	$275,400	$141,500	$212,800	$110,800	$170,200	$108,700
Building										
Equipment	199,100	156,500	181,300	152,800	158,300	141,500	180,000	118,900	149,800	106,900
Fast Food	21,900	17,100	22,100	17,700	19,900	18,500	19,000	16,200	14,100	9,100
Gas	84,500	95,200	84,900	85,300	88,000	89,500	65,700	73,700	55,100	49,400
Merchandise	65,600	62,500	64,500	51,500	68,300	55,300	63,300	48,100	61,000	39,300
Total Equipment	172,000	174,800	171,500	154,500	176,400	163,300	148,000	138,000	130,200	97,800
Inventory	51,600	53,400	64,000	53,200	58,600	50,100	56,900	43,100	46,000	42,800
Total Investment	$773,300	$532,700	$682,800	$517,400	$668,600	$496,400	$597,700	$410,800	$496,200	$356,200

Source: NACS "1989 State of the Convenience Store Industry" survey.

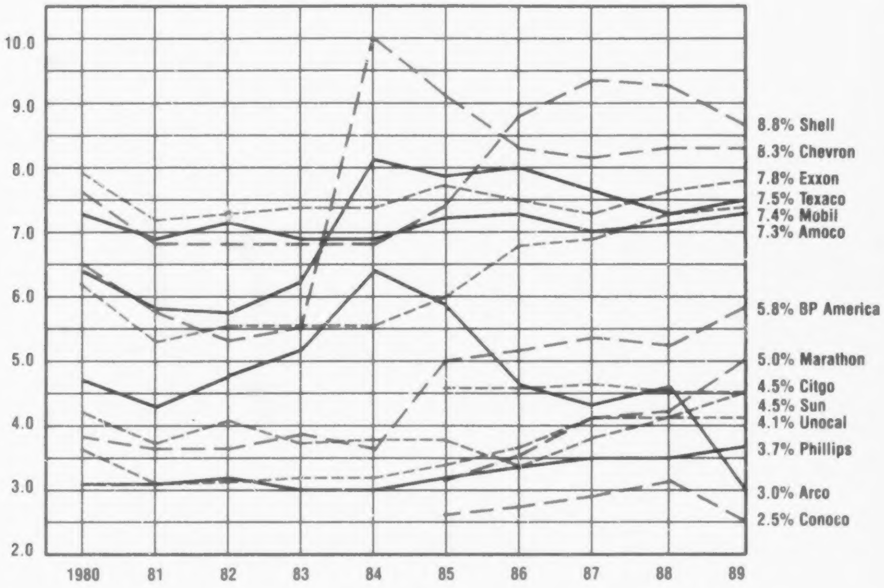
Percent of Stores Offering the Following by Classification Group

Stores	11-50		51-100		101-500		Over 500		Average	
	1988	1987	1988	1987	1988	1987	1988	1987	1988	1987
Specialty Products Offered:										
Fountain Drinks	86	91	95	94	98	94	96	96	96	95
Prepared Foods(Fast Foods	81	78	62	60	65	64	83	88	83	80
Service Deli	33	30	25	31	38	36	39	32	39	33
On-Premise Bakery	9	4	7	8	20	11	6	0	6	5
Fried Chicken	13	13	9	6	2	3	3	3	3	4
Pizza	20	13	6	6	3	11	4	6	4	7
Other	9	3	5	12	14	13	4	19	4	17
Services Offered:										
Microwave Equipment	88	98	95	89	88	87	95	95	95	92
Lottery Tickets	43	41	43	31	59	38	51	39	51	38
Vending Machines	18	8	5	15	1	9	2	4	2	7
Video Games	14	21	48	46	25	31	55	83	55	60
Film Processing	2	6	3	6	2	3	1	2	1	3
Video Rentals	22	45	35	56	36	51	44	68	40	63
Money Orders	44	63	64	71	63	62	89	93	77	84
Check Cashing	56	60	60	58	78	59	73	88	71	74
Automated Teller Machines	4	0	6	3	19	13	8	14	10	12
Credit Cards	68	63	75	71	49	52	73	36	68	47
Debit Cards	8	7	21	0	12	16	21	13	18	12
Seating for Fast Food	20	18	7	17	6	1	8	8	8	8
POS Scanning	2	-	7	-	0	-	0	-	1	-
Open 24 Hours per Day	51	60	66	59	64	70	92	85	79	76
Parking/Access (not counting parking at pumps):										
No parking, but convenient pedestrian access	3	3	2	1	2	1	2	1	2	3
1-10 striped spaces	69	82	47	64	41	77	92	93	72	83
10+ striped spaces	25	15	47	35	35	22	6	6	20	14

Source: "State of the Convenience Store Industry, 1989," National Assn. of Convenience Stores.

TRENDS IN GASOLINE MARKET SHARES

14 Top Marketers 1980-1989



N.B. This graph was revised in 1988 to include all marketers with national shares of 2.0% or more. In some instances, pre-1985 data was not available.

Shell Hangs In There As Top Gasoline Marketer For Fourth Consecutive Year

Even though its gross gasoline gallonage declined 4.4% in 1989, the loss wasn't significant enough to give Shell Oil any trouble in retaining its crown as the nation's No.1 gasoline marketer.

Shell, for the fourth straight year, outsold everyone else easily, besting second place Chevron by a half-billion gallons.

Exxon, Texaco, Mobil, Amoco and BP-America traipsed over the finish line in that order, duplicating their 1988 performances.

The 4.4% slippage in 1989 may be foreshadowing problems for Shell in 1990, however. This was the second year in a row that Shell has sustained volume losses (*NPN*—June '89, p24). In 1988 it topped Chevron by a billion gallons. In 1989, this lead slumped to a half-billion.

On the other hand, the year 1989 marked Shell's third consecutive year as a 10-billion gal.-plus marketer of gasoline. Except for Chevron in 1984 or thereabouts, no other oil company has gotten into the stratospheric 10-billion gal. level that Shell has occupied all alone. Chevron did it in the wake of its acquisition of Gulf Oil six years ago but slipped right out again in the shakeout of the merger that followed.

For the record, these are gross gasoline volumes, as reported by the companies in their annual reports and internal records. They include retail and wholesale gallons. Thus, they are broader-based than the retail-only statistics that are collected by private sources and sometimes differ sharply from them.

Shell and Citgo were the only companies in the top 10 that suffered gallonage losses in 1989—Shell the 4.4% noted above and Citgo, a 1.2% decline. All the others recorded increases of 1.5% (Chevron) to spectacular 20.9% and 18.5% pluses by Marathon and Sun, respectively.

Marathon's 20.9% increase enabled it to leapfrog over Citgo into eighth place and Sun, which had been 11th in 1988, displaced Unocal as the 10th in line.

Probably the most spectacular change in the 1989 lineup was the statistics disaster that overtook Arco Petroleum Products. Lyondell Petrochemical Co. was owned 100% by Arco and its gasoline gallonage was included in Arco's total through the years. But Lyondell went public in late 1988 and the deal was consummated in January 1989, with Arco retaining 49% ownership and treating it as a corporate asset rather than a wholly-owned subsidiary. That put a big dent in Arco's gasoline volume and dropped it from a normal eighth place ranking to 13th—just ahead of last place Conoco in the list compiled by *NPN*. The *NPN* compilations rank all companies which control 2% or more of the national market shares.

The 14 companies included in the *NPN* scoreboard represented about 80% of the total volume sold in the U.S. This was about par for the course, although the restated 1988 gallonage figures dipped abruptly to 77.3%.

What American marketers should keep their eyes on, however, is the fact that about one-third of the gasoline consumed by motorists in this country is vended by firms that are totally or mostly owned by foreign interests—specifically, Shell, BP America, Citgo, Conoco, Total Petroleum and Texaco's 50% deal with Saudi Arabia.

Chevron leads in product sales

As it did last year, Chevron sold more refined products than any other domestic oil company.

Chevron increased its 1989 sales to an average of 1,469,000 b/d while second place Shell slipped badly with an 8.1% loss to an average of 1,207,000 b/d.

Third-place Exxon improved itself with a 3% increase in 1989. It is now only 60,000 b/d away from overtaking second-place Shell.

Fast-moving Marathon had the biggest increase in refined product sales last year, a jump of 19.1%. BP America also had a good showing, an increase of 10.6% in the never-ending flow of gasoline, distillates, resid, avgas and similar items from the nation's refineries.

1989 Refined Product Sales

(Add 000 b/d)

	1989	1988	% Chng.
Chevron	1,469	1,451	1.2%
Shell	1,207	1,314	(8.1)
Exxon	1,147	1,113	3.0
Amoco	1,001	953	5.0
Mobil	939	927	1.3
BP America	898	812	10.6
Texaco	809	1,026	(21.2)
Marathon	666	559	19.1
Sun	655	693	9.7
Phillips	588	585	0.5
Unocal	523	520	0.5
Citgo	517	493	4.9
Conoco	451	437	3.2
Arco Prod.(*)	436	418	4.3
Dia. Shamrock	180	176	2.3

(*) Excludes Lyondell, which went public in 1989, in restated data for 1989 and 1988.

Gross Gasoline Gallonage and Relative Market Shares—1989[a]

(*NPN* projection: 1989 gasoline sales equal 114.6-billion gal.) (b)
(Add 000 gal.)

	—Rank—		% Share	Gross	% Chng.
	1989	1988	of Mkt.	Gals. (c)	vs 1988
Shell	1	1	8.829	10,117,800	(4.4)
Chevron	2	2	8.347	9,565,520	1.5
Exxon	3	3	7.785	8,922,060	2.6
Texaco	4	4	7.531	8,630,790	3.5
Mobil	5	5	7.411	8,492,820	2.2
Amoco	6	6	7.317	8,385,510	3.8
BP America	7	7	5.774	6,616,660	3.3
Marathon	8	9	5.030	5,764,080	20.9
Citgo	9	8	4.468	5,120,220	(1.2)
Sun	10	11	4.455	5,104,890	18.5
Unocal	11	10	4.147	4,752,300	2.0
Phillips	12	12	3.721	4,264,410	0.7
Arco Prod. Co.(*)	13	8	2.983	3,418,590	3.7
Conoco	14	14	2.526	2,897,370	1.6
Total			**80.3**	**92,053,020**	**3.4**

(a) Preliminary; (b) Retail gasoline gallonage for 1989 was projected by NPN and based on FHA and API reports. The gross gallonage statistics include some nonhighway consumption which cannot be separated out via industry, federal and state compilations; (c) gross gasoline volumes as reported in annual reports, 10 K's and internal summaries. Specifically excluded from this summary are companies like Cumberland Farms/Gulf, Getty, and Circle K which are privately owned and/or do not issue annual reports; (*) In 1989, Lyondell went public, with Arco retaining only 49%; both 1989 and 1988 date have been restated to reflect this change.

Gross Gasoline Gallons and Relative Market Shares—1988 (Revised)[a]

(FHA gasoline sales in 1988 totaled 114.7-billion gal.) (b)
(Add 000 gal.)

	—Rank—		Share	Gross	% Chng.
	1988	1987	of Mkt.	Gals. (c)	vs 1987
Shell	1	1	9.235	10,593,030	(0.3)
Chevron	2	2	8.220	9,427,950	2.3
Exxon	3	4	7.578	8,692,110	5.0
Texaco	4	3	7.271	8,339,520	(3.4)
Mobil	5	6	7.244	8,308,860	5.2
Amoco	6	5	7.044	8,078,910	1.2
BP America	7	7	5.199	5,963,370	(3.0)
Citgo	8	9	4.517	5,181,540	5.3
Marathon	9	10	4.157	4,767,630	3.3
Unocal	10	12	4.063	4,660,320	9.7
Sun	11	11	3.756	4,307,730	(6.6)
Phillips	12	13	3.675	4,215,750	8.6
Conoco	13	14	3.074	3,525,900	7.5
Arco Prod. (*)	14	8	2.874	3,295,950	—
Total			**77.3**	**88,684,050**	—

Same footnotes on 1989 table (above) apply here.

Share of Market—20 Companies in 1987(a)

Production

	Crude oil and NGL(b)			Natural gas	
	(Add 000 b/d)	% of Mkt.		Millions/CF	% of Mkt.
BP America	851.3	8.51%	Chevron	708,465	4.34%
Exxon	756.0	7.55	Mobil	656,635	4.02
Arco	655.0	6.64	Texaco	644,590	3.95
Shell	558.0	5.58	Exxon	619,770	3.79
Texaco	540.0	5.40	Amoco	617,000	3.78
Chevron	506.9	5.07	Shell	558,085	3.42
Amoco	394.0	3.94	Arco	464,280	2.84
Mobil	338.0	3.38	Tenneco	368,377	2.26
Phillips	287.0	2.87	Phillips	281,780	1.73
USX/Marathon	171.1	1.71	Occidental	281,415	1.72
Unocal	167.0	1.67	USX/Marathon	274,480	1.68
Sun	159.3	1.59	Unocal	271,925	1.66
Occidental	129.0	1.19	Sun	230,315	1.41
DuPont/Conoco	107.0	1.07	DuPont/Conoco	219,365	1.34
Tenneco	100.9	1.01	Burlington Northern	151,000	0.92
Burlington Northern	79.8	0.80	Union Pacific/Champlin	124,830	0.76
Amerada Hess	68.5	0.68	Enron	120,450	0.74
City of Long Beach	67.8	0.68	Pennzoil	115,052	0.72
Union Pacific/Champlin	61.1	0.61	Consolidated Nat'l. Gas	109,562	0.67
Enron	57.1	0.57	Mesa	102,261	0.63

Proved Reserves

	Crude oil and NGL(b)			Natural Gas	
	(Million/bbl.)	% of Mkt.		(Billions/CF)	% of Mkt.
BP America	2,953.0	8.34%	Amoco	10,690	6.57%
Arco	2,818.0	7.96	Exxon	9,761	6.00
Shell	2,782.0	7.86	Mobil	7,741	4.76
Exxon	2,634.0	7.44	Chevron	7,078	4.35
Chevron	1,809.0	5.11	Shell	6,541	4.02
Amoco	1,670.0	4.72	Arco	5,854	3.60
Texaco	1,603.0	4.53	Texaco	4,783	2.94
Mobil	1,024.0	2.89	Unocal	4,399	2.71
Unocal	656.0	1.85	Phillips	3,369	2.07
Sun	621.0	1.75	USX/Marathon	3,277	2.02
USX/Marathon	621.0	1.75	Tenneco	2,943	1.81
Phillips	457.0	1.29	Burlington Northern	2,807	1.73
Occidental	457.0	1.29	Occidental	2,734	1.68
DuPont/Conoco	351.0	0.99	Sun	2,232	1.37
Tenneco	270.0	0.76	DuPont/Conoco	1,959	1.20
Amerada Hess	201.0	0.57	BP America	1,932	1.19
Santa Fe	129.3	0.39	Mesa	1,904	1.17
Pennzoil	135.0	0.38	Anadarko	1,717	1.06
Union Pacific/Champlin	130.1	0.37	Enron	1,360	0.84
Mesa	88.4	0.25	Union Pacific/Champlin	1,327	0.82

Refining Capacity

	Operable Capacity (000 b/d)	% of Total capacity	Runs (000 b/d)(c)	% of U.S. total	% utilized
Chevron	1,718.6	11.35%	1,387.7	10.71%	77.7%
Exxon	1,169.0	7.72	1,026.0	7.92	87.8
Shell	1,065.7	7.04	969.0	7.48	90.9
Amoco	939.0	6.20	842.0	6.50	89.7
Texaco	881.5	5.82	836.0	6.45	94.8
Mobil	755.0	4.99	645.0	4.98	85.4
Arco	668.0	4.41	669.4	5.17	100.2
BP America	667.6	4.41	622.5	4.81	99.2
USX/Marathon	513.0	3.39	452.5	3.49	88.2
Unocal	497.0	3.28	428.0	3.30	86.1
Sun	460.0	3.04	427.2	3.30	92.9
DuPont/Conoco	394.3	2.60	348.0	2.69	88.3
Ashland	346.5	2.29	319.1	2.46	92.0
Phillips	305.0	2.01	302.0	2.33	99.0
Coastal	290.4	1.92	173.8	1.34	59.8
Koch	280.0	1.85	NA	NA	—
Petroleos de Venezuela(d)	226.1	1.49	194.3	1.50	85.9
Total Petroleum	191.1	1.26	172.7	1.33	90.4
Kerr-McGee	164.8	1.09	140.9	1.09	85.5
Solomon	155.7	1.03	NA	NA	—

(a) This report is updated biennially, hence no data are available for 1988. The 1989 data will be available later this year or early 1991.

(b) Natural Gas Liquids and Condensate

(c) Runs are not listed in the usual ranking order; they are keyed to operable capacities in Column 1, hence some are not listed in their correct numerical positions.

(d) Petroleos de Venezuela, the Venezuelan national oil company, owns 50% of Citgo Petroleum and 50% of Champlin Refining Company. In 1987, Citgo's operable refining capacity averaged 297,000 b/d and Champlin's averaged 155,200 b/d.

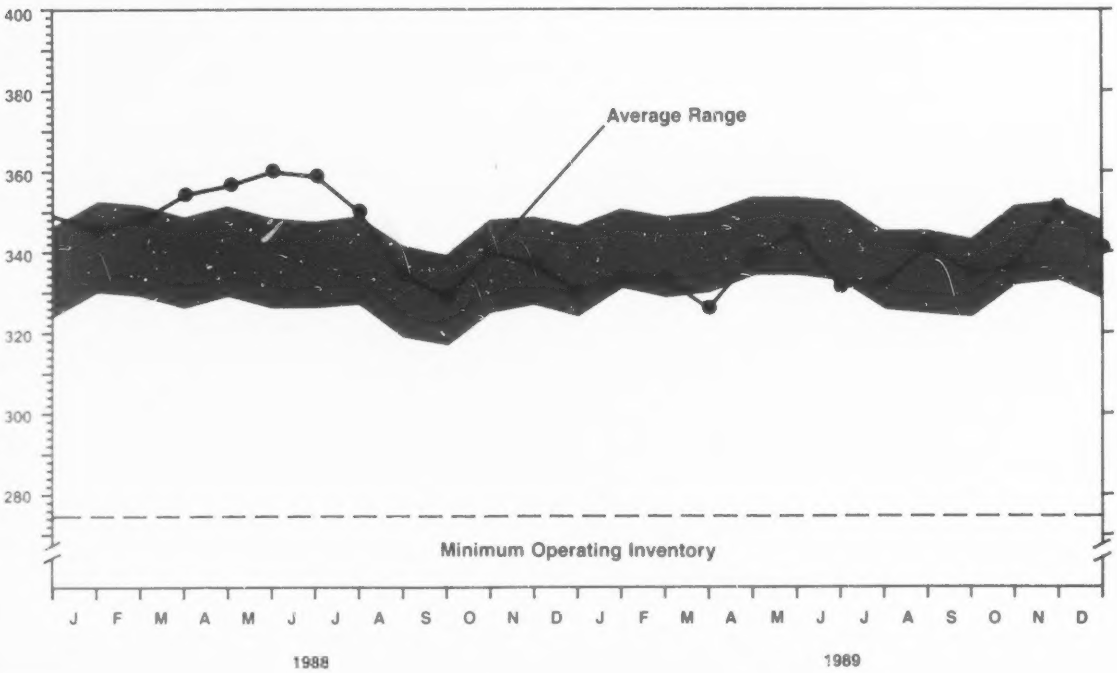
Share of Market—Concentration Ratios

(% of U.S. total)

	1987	1986	1985	1980	1975	1970	1965
Gasoline Sales							
4 Firms	28.9	29.5	29.8	28.5	29.5	30.7	—
8 Firms	48.7	49.6	50.3	49.5	50.3	54.6	—
15 Firms	65.0	66.4	67.7	66.3	68.6	74.9	—
20 Firms	70.2	70.5	71.8	72.1	74.7	80.0	—
30 Firms	76.4	76.6	71.2	77.9	—	—	—
Proved Reserves of Crude Oil and Liquids							
4 Firms	31.6	29.7	29.3	31.1	36.3	—	—
8 Firms	48.9	47.1	47.6	46.3	55.6	—	—
15 Firms	58.5	57.2	57.9	59.5	70.4	—	—
20 Firms	60.5	59.3	60.0	62.7	74.5	—	—
30 Firms	62.0	61.0	61.7	65.2	—	—	—
Production of Crude Oil and Liquids							
4 Firms	28.3	26.6	26.1	25.3	26.0	26.3	23.9
8 Firms	46.1	44.6	43.5	40.8	41.2	41.7	38.5
15 Firms	57.3	56.4	55.2	56.1	57.0	56.9	50.3
20 Firms	60.6	59.7	58.4	60.6	61.2	61.1	55.0
30 Firms	63.9	63.2	61.9	64.8	—	—	—
Refining Capacity							
4 Firms	32.2	33.2	34.4	29.0	29.9	32.5	30.4
8 Firms	52.0	53.0	54.4	49.0	53.5	57.5	54.3
15 Firms	70.5	71.6	73.0	67.0	74.1	78.1	75.0
20 Firms	77.2	79.0	80.3	74.5	81.3	84.3	83.0
30 Firms	86.3	87.9	88.8	82.3	—	—	—
Refinery Runs							
4 Firms	32.6	33.2	33.9	31.2	32.9	34.2	31.0
8 Firms	54.0	55.3	57.3	53.9	57.7	61.0	55.3
15 Firms	73.1	74.7	76.5	73.6	79.4	84.6	73.3
20 Firms	79.2	80.9	82.5	81.5	86.8	91.1	81.4

Source: American Petroleum Institute, Market Shares and Individual Company Data for U.S. Energy Markets 1950-1987, published October 1988.

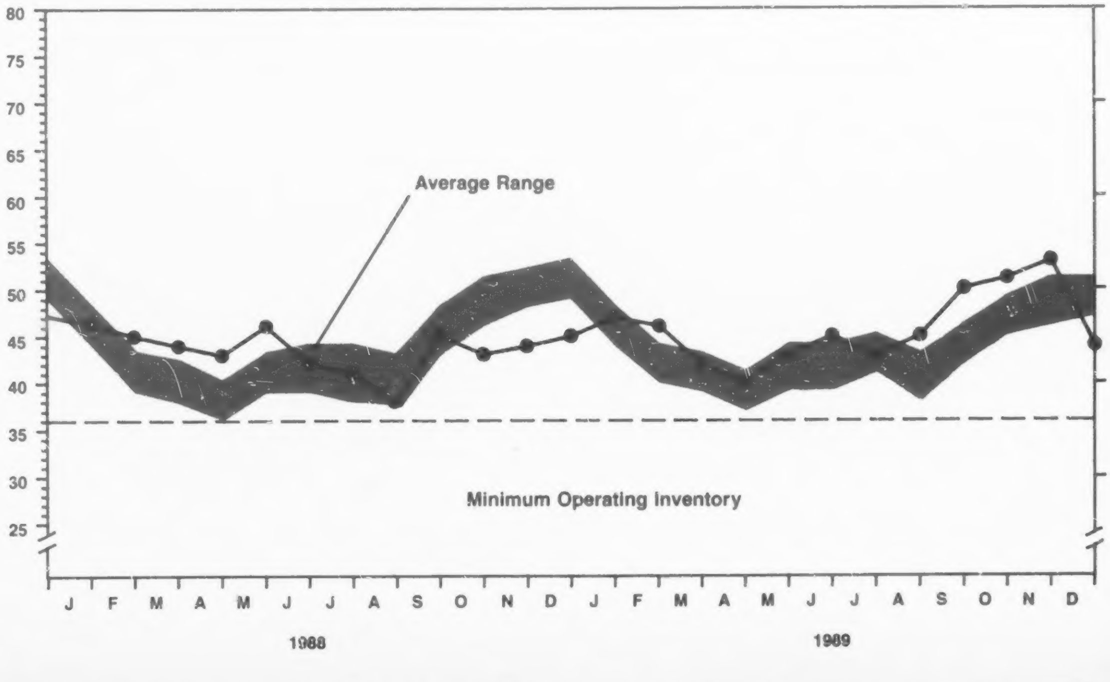
Stocks of Crude Oil, U.S. Total (Millions of bbl.)



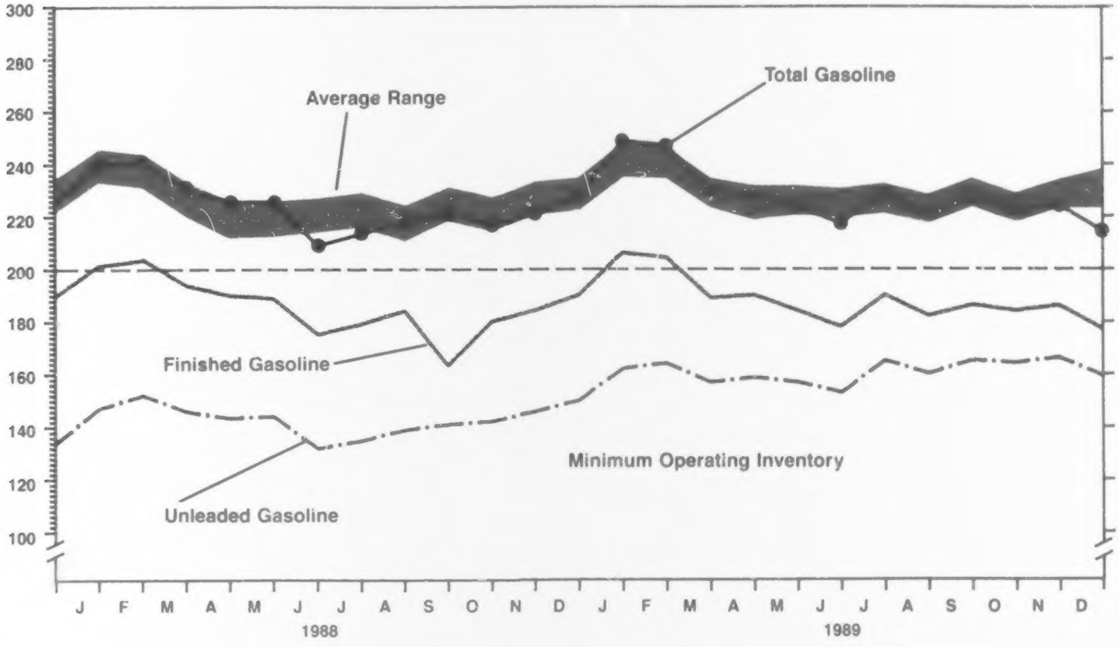
Crude Stocks at Primary Levels include those held at refineries, in pipelines, and in lease tanks, but do not include those held in the Strategic Petroleum Reserve operated by the U.S. Government. The average level and width of average range are based on three years of monthly data. The seasonal pattern is based on seven years of monthly data. National Petroleum Council defines the Minimum Operating Inventory as the minimum level required for routine operation. By its definition, runouts and shortages could occur if inventory levels fall below that level for any extended period of time.

Source: Department of Energy, Weekly Statistical Reports.

Stocks of Residual Fuel Oil, U.S. Total (Millions of bbl.)

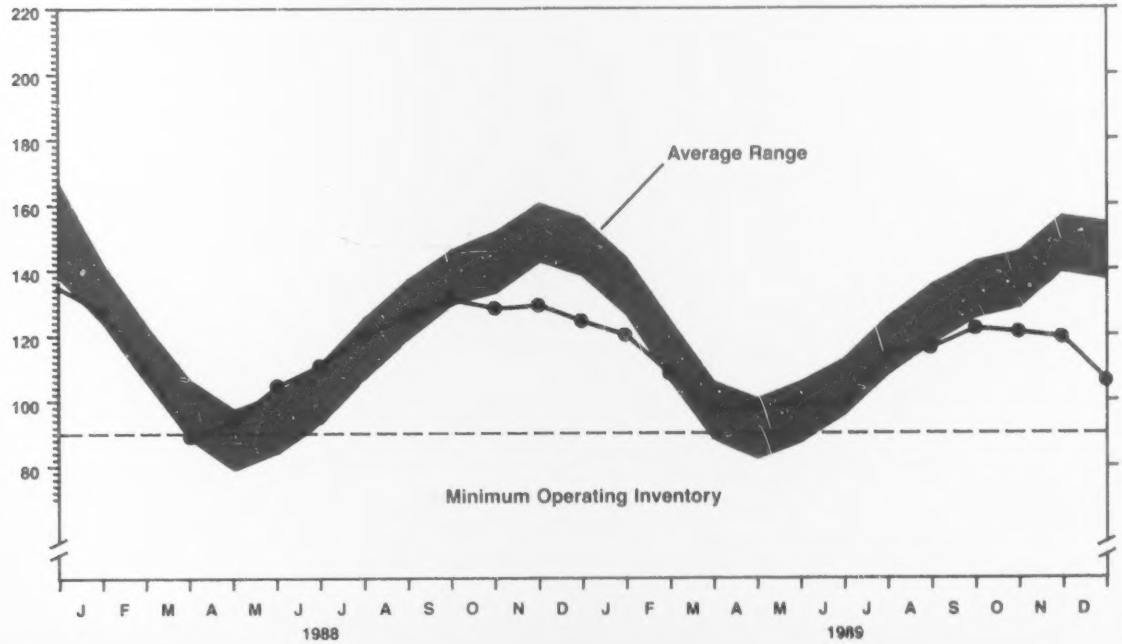


Stocks of Motor Gasoline, U.S. Total (Millions of bbl.)



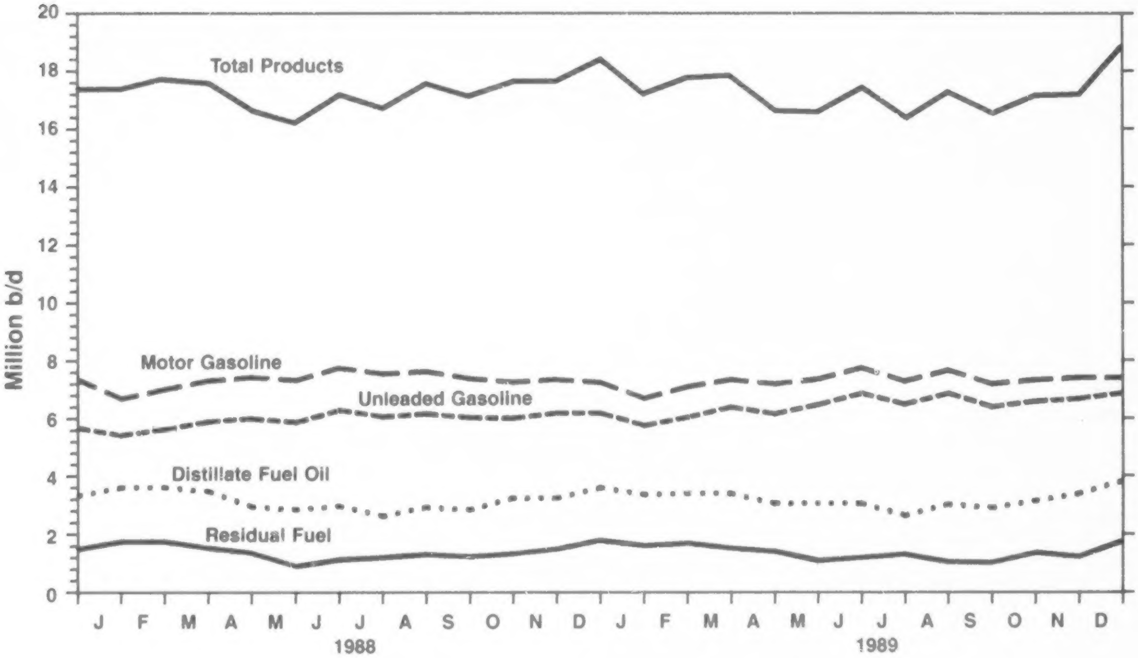
Product stocks at the Primary Level include those held at refineries, in pipelines, and at major bulk terminals. They do not include stocks held in secondary distribution facilities such as jobber tanks, consumer tanks, and/or barges designed for consumer markets. The average level and width of average range are based on three years of monthly data. The seasonal pattern is based on seven years of monthly data. National Petroleum Council defines the Minimum Operating Inventory as the minimum level required for routine operation. By its definition, runouts and shortages could occur if inventory levels fall below that level for any extended period of time.
Source: Energy Information Administration, Weekly Statistical Reports.

Stocks of Distillate Fuel Oil, U.S. Total (Millions of bbl.)



Domestic Product Supply Trends

(million b/d)



Petroleum Products Supplied

(Millions of b/d)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1989												
Finished Motor Gasoline	6.7	7.1	7.4	7.2	7.4	7.8	7.3	7.7	7.2	7.3	7.4	7.4
Leaded	1.0	1.0	1.0	0.9	0.9	0.9	0.8	0.8	0.8	0.7	0.6	0.5
Unleaded	5.8	6.1	6.4	6.2	6.5	6.9	6.5	6.9	6.4	6.6	6.7	6.9
Jet Fuel	1.5	1.5	1.5	1.4	1.3	1.5	1.4	1.5	1.5	1.5	1.5	1.7
Distillate Fuel Oil	3.3	3.4	3.4	3.0	3.0	3.0	2.6	3.0	2.9	3.1	3.3	3.9
Residual Fuel Oil	1.6	1.7	1.5	1.4	1.1	1.2	1.3	1.1	1.0	1.3	1.2	1.8
Other	4.1	4.0	4.0	3.6	3.7	3.9	3.8	4.0	4.0	4.0	3.8	4.0
Total	17.2	17.8	17.9	16.6	16.5	17.4	16.4	17.3	16.6	17.1	17.2	18.9
1988												
Finished Motor Gasoline	6.7	7.0	7.3	7.4	7.3	7.8	7.5	7.6	7.4	7.3	7.4	7.3
Leaded	1.3	1.4	1.4	1.4	1.4	1.5	1.3	1.3	1.3	1.3	1.2	1.1
Unleaded	5.4	5.6	5.9	6.0	5.9	6.3	6.1	6.2	6.1	6.0	6.2	6.2
Jet Fuel	1.6	1.5	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.5	1.4	1.5
Distillate Fuel Oil	3.6	3.6	3.5	2.9	2.8	2.9	2.6	2.9	2.8	3.2	3.2	3.6
Residual Fuel Oil	1.7	1.7	1.5	1.3	0.9	1.1	1.2	1.3	1.2	1.3	1.5	1.8
Other	3.9	4.0	3.9	3.6	3.8	3.9	4.0	4.3	4.2	4.3	4.1	4.2
Total	17.4	17.8	17.6	16.6	16.2	17.1	16.7	17.5	17.1	17.6	17.6	18.4
1987												
Finished Motor Gasoline	6.5	6.8	7.0	7.3	7.5	7.5	7.6	7.3	7.2	7.3	7.2	7.3
Leaded	1.7	1.7	1.8	1.9	1.9	1.9	1.8	1.7	1.7	1.7	1.6	1.5
Unleaded	4.8	5.1	5.2	5.4	5.6	5.7	5.7	5.7	5.5	5.6	5.6	5.7
Jet Fuel	1.4	1.4	1.4	1.3	1.3	1.4	1.4	1.4	1.4	1.5	1.4	1.5
Distillate Fuel Oil	3.3	3.3	3.1	3.0	2.7	2.8	2.7	2.6	2.6	3.2	2.9	3.3
Residual Fuel Oil	1.5	1.5	1.2	1.2	1.0	1.2	1.3	1.2	1.3	1.1	1.2	1.4
Other	4.0	3.8	3.5	3.7	3.5	3.9	4.1	3.9	4.0	3.9	3.7	4.0
Total	16.7	16.9	16.2	16.5	16.0	16.8	17.1	16.3	16.7	16.9	16.3	17.4

Source: Energy Information Administration, Weekly Status Reports.

Stocks of Motor Gasoline

(Add 000,000 bbl.)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1989												
Finished Motor Gasoline	205.8	203.6	189.0	188.9	183.9	178.4	190.2	182.4	186.0	183.7	185.6	177.1
Leaded	41.5	39.5	32.4	29.4	26.8	25.2	25.1	22.7	21.1	19.3	19.3	17.7
Unleaded	164.2	164.1	156.7	159.4	157.1	153.1	165.1	159.7	164.9	164.4	166.3	159.4
Blending Components	42.8	43.5	41.0	38.6	39.7	38.2	38.7	38.4	40.8	39.7	38.6	36.5
Total Gasoline	248.5	247.1	230.0	227.5	223.6	216.6	228.9	220.8	226.9	223.4	224.2	213.5
East Coast	68.1	67.4	64.1	63.6	62.6	60.7	65.0	61.9	61.7	63.6	63.4	56.9
Midwest	69.0	68.7	65.8	62.8	55.6	54.0	59.3	58.6	62.9	59.3	59.9	57.6
Gulf Coast	67.5	71.6	66.2	64.9	69.2	66.8	66.5	63.6	66.4	63.8	62.3	60.1
Rocky Mountain	8.2	8.0	7.2	6.1	5.7	5.9	6.2	6.0	6.6	6.4	6.9	7.5
West Coast	35.7	31.5	26.8	30.1	30.6	29.2	31.9	30.6	29.3	30.3	31.6	31.4
1988												
Finished Motor Gasoline	200.8	203.0	194.4	190.1	188.8	174.9	179.4	183.5	182.7	180.4	183.9	189.9
Leaded	53.9	51.5	48.8	47.1	44.9	42.7	44.6	44.5	41.9	38.7	38.2	40.2
Unleaded	146.9	151.5	145.6	143.1	144.0	132.2	134.9	139.0	140.8	141.7	145.7	149.7
Blending Components	39.5	38.4	37.3	36.6	37.3	35.2	35.8	36.6	38.7	37.3	37.3	38.6
Total Gasoline	240.3	241.4	231.7	226.7	226.1	210.1	215.3	220.1	221.3	217.7	221.2	228.4
East Coast	68.4	71.3	68.2	63.7	63.3	60.1	62.5	61.9	61.2	58.7	60.7	62.5
Midwest	63.4	66.3	66.3	63.0	63.4	55.0	55.6	60.7	61.3	58.4	58.3	59.8
Gulf Coast	68.9	64.7	61.0	62.3	62.8	61.6	63.7	63.7	61.3	63.4	64.6	65.1
Rocky Mountain	7.4	7.9	7.6	7.1	6.8	6.2	5.7	5.8	6.1	6.3	6.7	7.5
West Coast	32.2	31.2	28.7	30.6	29.9	27.2	27.8	28.0	31.5	30.9	30.9	33.5

Stocks of Distillate Fuel Oil

(Add 000,000 bbl.)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1989												
Total U.S.	120.3	107.5	96.6	98.4	99.3	99.4	115.0	116.1	122.2	121.4	119.4	105.6
East Coast	46.3	37.2	33.3	33.2	32.9	35.6	44.5	48.4	50.2	51.7	49.7	35.1
Midwest	33.0	31.2	27.2	27.4	27.2	27.0	28.8	29.0	30.9	28.7	28.9	30.8
Gulf Coast	27.4	26.2	22.9	23.9	25.3	23.9	27.7	26.1	27.8	27.5	26.8	24.9
Rocky Mountain	2.8	2.7	2.3	2.4	2.8	2.4	2.6	2.6	2.7	2.5	2.8	3.3
West Coast	10.8	10.3	11.0	11.5	11.1	10.6	11.3	10.0	10.6	11.0	11.2	11.5
1988												
Total U.S.	128.1	110.3	89.8	95.0	104.9	110.4	119.9	125.7	131.4	128.2	128.8	123.5
East Coast	48.1	44.4	33.0	30.0	34.9	37.4	44.7	52.3	57.0	56.7	54.6	49.2
Midwest	34.4	29.8	23.3	26.6	28.9	29.7	30.6	31.0	30.5	28.7	29.2	31.3
Gulf Coast	31.7	23.1	21.8	24.7	25.4	27.3	29.2	28.5	28.9	28.8	29.9	28.2
Rocky Mountain	3.3	3.2	2.3	2.4	2.9	3.2	3.2	3.0	2.7	2.5	2.7	2.8
West Coast	10.6	9.7	9.5	11.3	12.8	12.7	12.3	10.9	12.3	11.6	12.4	12.0

Stocks of Residual Fuel Oil

(Add 000,000 bbl.)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1989												
Total U.S.	47.0	46.0	42.4	40.2	42.6	44.8	43.0	44.5	49.5	51.4	52.5	43.8
East Coast	21.3	19.2	16.1	16.1	17.3	18.0	17.5	19.1	22.3	25.2	25.3	18.8
Midwest	3.5	3.3	3.2	2.8	3.1	3.2	3.1	3.1	3.5	3.3	3.3	3.5
Gulf Coast	12.4	13.3	13.9	12.3	13.3	14.4	13.7	15.0	15.2	14.3	14.5	13.8
Rocky Mountain	0.7	0.6	0.6	0.5	0.5	0.6	0.6	0.6	0.6	0.5	0.5	0.5
West Coast	9.1	9.6	8.6	8.5	8.3	8.5	8.1	6.7	8.0	8.0	9.0	7.2
1988												
Total U.S.	46.0	45.1	43.7	42.8	45.7	42.2	41.0	38.0	44.6	42.5	44.0	44.6
East Coast	19.6	19.7	17.8	16.2	18.8	16.4	16.6	15.0	19.4	17.7	18.6	18.8
Midwest	3.2	3.1	2.9	3.2	3.2	3.4	3.8	3.6	3.5	3.6	3.4	3.5
Gulf Coast	14.5	14.5	14.2	15.2	15.4	14.2	12.2	10.9	12.2	11.5	12.5	12.4
Rocky Mountain	0.3	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.7
West Coast	8.3	7.5	8.5	7.8	7.8	7.7	7.9	8.0	9.0	9.0	8.9	9.2

Source: Energy Information Administration, Weekly Status Reports.

Refinery and Bulk Terminal Stocks By States and PAD Regions—1989

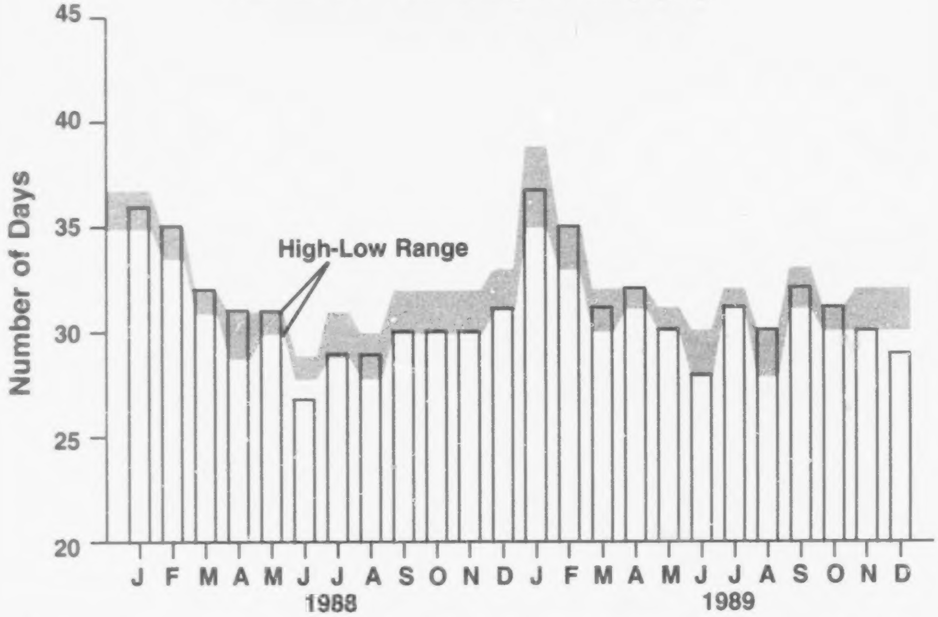
(Add 000 bbl.)

State	Leaded Gasoline	Unleaded Gasoline	Kerosine	Distillate	Residual
PAD District 1					
Connecticut	0	1,597	52	1,451	170
Delaware, D.C., Maryland	49	2,175	112	1,951	2,042
Florida	174	5,107	196	1,591	791
Georgia	119	2,261	69	1,147	192
Maine, New Hampshire, Vermont	0	878	109	1,188	602
Massachusetts	8	1,877	64	1,170	1,090
New Jersey	59	9,174	71	6,265	7,775
New York	31	4,084	353	3,589	3,659
North Carolina	146	2,477	158	861	254
Pennsylvania	21	4,702	540	4,884	1,364
Rhode Island	2	283	w	473	w
South Carolina	89	1,333	99	524	w
Virginia	136	3,371	122	1,550	490
West Virginia	20	205	w	106	w
TOTAL	**854**	**39,524**	**2,001**	**26,750**	**18,824**
PAD District 2					
Illinois	523	5,967	305	4,892	1,499
Indiana	299	3,774	151	3,369	503
Iowa	240	983	w	1,116	w
Kansas, Nebraska	815	2,028	21	1,927	38
Kentucky	29	1,449	104	851	w
Michigan	173	2,747	166	1,905	144
Minnesota	383	1,831	w	1,353	157
Missouri	346	1,016	w	867	w
North & South Dakota	280	691	w	609	w
Ohio	81	4,265	430	2,268	379
Oklahoma	553	1,235	w	1,527	280
Tennessee	106	2,153	15	1,055	220
Wisconsin	198	1,351	w	1,279	28
TOTAL	**4,026**	**29,490**	**1,413**	**23,018**	**3,500**
PAD District 3					
Alabama	73	1,316	43	897	633
Arkansas	48	605	w	274	w
Louisiana	184	4,334	244	3,256	4,801
Mississippi	176	2,247	19	1,213	w
New Mexico	182	362	w	329	7
Texas	1,319	15,800	456	10,892	7,947
TOTAL	**1,982**	**24,664**	**767**	**16,861**	**13,752**
PAD District 4					
Colorado	310	625	w	474	w
Idaho	174	290	w	225	w
Montana	599	578	w	526	69
Utah	268	435	w	580	136
Wyoming	368	477	w	757	w
TOTAL	**1,719**	**2,405**	**59**	**2,562**	**493**
PAD District 5					
Alaska	233	546	w	1,066	w
Arizona	453	662	w	365	w
California	2,781	9,955	83	5,779	4,908
Hawaii	64	664	w	512	w
Nevada	133	274	w	200	w
Oregon	680	795	w	813	117
Washington	1,359	2,278	w	1,643	988
TOTAL	**5,703**	**15,174**	**114**	**10,378**	**7,108**
U.S. Total	**14,284**	**111,257**	**4,354**	**79,569**	**43,677**

W = Withheld to avoid disclosure of individual company data.

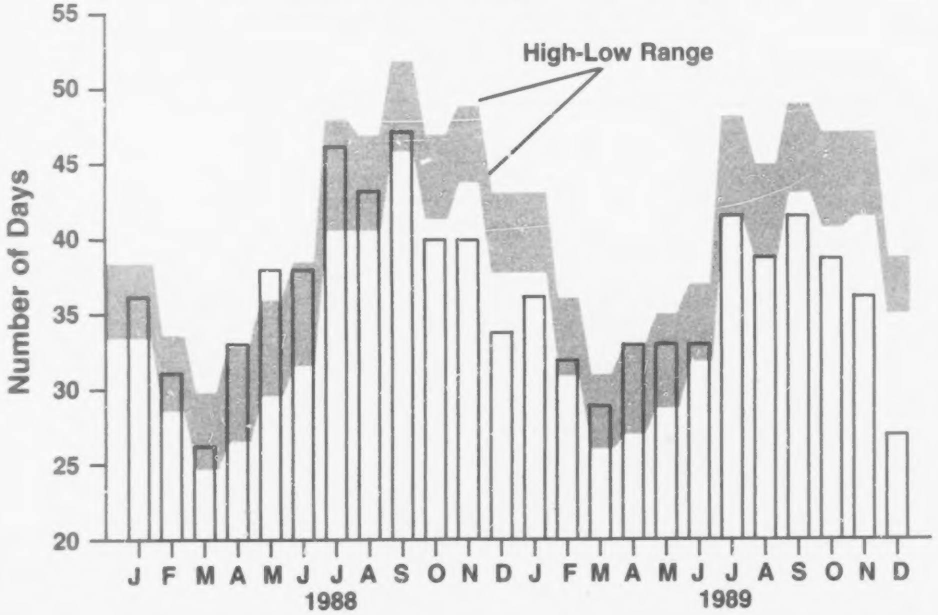
Source: Energy Information Administration, Petroleum Supply Monthly, Table 42, December 1989, published in March, 1990

Gasoline Inventories
Number of Days Supply



Source: Energy Information Administration, Weekly Petroleum Status Report. High-low range is based on lowest and highest values of past three years. Graph by NPN.

Distillate Inventories
Number of Days Supply



Source: Energy Information Administration, Weekly Petroleum Status Report. High-low range is based on lowest and highest values of past three years. Graph by NPN.

U.S. Crude Oil Production—1988-1979

(Thousan[illegible] of b/d)

	1988	1987	1986	1985	1984	1983	1982	1981	1980	1979
PAD District 1										
Florida	21.2	22.7	25.7	31.4	39.6	53.4	70.2	95.3	117.2	129.2
New York	1.5	1.9	2.3	2.9	2.3	2.3	2.3	2.3	2.3	2.3
Pennsylvania	7.7	9.0	10.4	13.3	11.7	11.7	11.7	10.2	7.2	7.9
Virginia	**	**	**	**	**	0.2	0.1	**	**	**
West Virginia	7.2	7.8	8.6	9.7	9.7	9.9	8.9	9.5	6.4	6.6
Total	**37.6**	**41.4**	**47.0**	**57.3**	**63.3**	**77.5**	**93.2**	**117.3**	**133.1**	**146.0**
PAD District 2										
Illinois	61.4	65.7	74.6	82.9	79.1	80.0	75.9	66.0	62.0	59.7
Indiana	10.0	10.2	13.0	14.2	15.1	14.6	15.2	12.9	13.6	12.9
Kansas	160.7	164.1	183.7	206.6	207.5	196.1	193.2	180.3	164.3	156.2
Kentucky	14.9	15.7	17.7	21.3	21.3	21.6	20.2	17.9	16.2	15.1
Michigan	63.5	71.2	70.4	74.8	83.7	86.9	86.2	89.5	97.8	95.5
Missouri	0.4	0.3	0.3	0.6	0.8	0.7	0.6	0.6	0.3	0.2
Nebraska	16.3	16.7	19.4	19.0	17.7	17.5	18.8	18.3	17.0	16.6
North Dakota	107.5	113.3	125.0	139.3	144.3	138.9	129.5	124.4	110.2	84.7
Ohio	32.0	33.3	36.8	41.1	41.8	41.0	39.9	37.1	35.3	32.8
Oklahoma	352.1	368.2	386.6	445.9	461.3	434.5	434.6	422.1	410.2	393.6
South Dakota	4.5	4.5	4.3	4.4	3.7	3.2	3.2	2.7	2.1	2.3
Tennessee	1.6	1.7	2.1	2.9	3.3	3.6	3.7	3.2	2.4	1.9
Total	**824.9**	**864.8**	**933.6**	**1,052.4**	**1,078.8**	**1,037.9**	**1,020.4**	**974.4**	**931.1**	**871.3**
PAD District 3										
Alabama	56.8	56.5	57.9	59.1	54.3	51.4	54.8	56.6	60.5	52.5
Arkansas	37.2	39.0	43.2	52.2	51.3	51.6	51.6	50.3	49.8	51.7
Louisiana	1,194.4	1,304.2	1,403.0	1,392.4	1,411.7	1,313.9	1,255.9	1,231.0	1,281.8	1,341.6
Mississippi	75.3	77.0	82.2	83.9	89.8	86.2	90.5	93.7	98.2	102.3
New Mexico	194.6	198.2	207.4	215.2	217.4	205.9	194.6	196.1	205.1	218.2
Texas	2,084.2	2,152.0	2,300.3	2,435.2	2,478.8	2,473.0	2,535.1	2,589.4	2,670.6	2,789.3
Total	**3,642.5**	**3,911.0**	**4,094.0**	**4,238.0**	**4,303.4**	**4,182.0**	**4,182.5**	**4,217.1**	**4,366.0**	**4,555.6**
PAD District 4										
Colorado	88.4	78.9	80.3	82.9	79.0	79.6	83.7	83.0	81.4	86.5
Montana	63.8	68.7	74.2	81.6	81.5	80.1	84.7	84.4	80.0	82.1
Utah	90.2	98.0	107.3	111.8	95.0	80.9	61.5	70.9	68.2	76.0
Wyoming	311.4	315.8	332.4	352.1	340.5	324.1	324.1	357.7	345.2	361.3
Total	**553.8**	**561.1**	**594.2**	**628.4**	**596.0**	**564.7**	**554.0**	**596.0**	**574.8**	**607.9**
PAD District 5										
Alaska	2,016.8	1,961.5	1,866.6	1,825.3	1,727.1	1,713.8	1,695.6	1,609.1	1,616.6	1,400.9
Arizona	0.3	0.4	0.4	0.5	0.6	0.6	0.9	1.0	1.1	1.3
California	1,054.7	1,084.1	1,114.2	1,161.3	1,128.8	1,108.7	1,100.2	1,054.7	975.2	965.1
Nevada	8.8	8.5	8.0	8.3	5.2	2.2	1.7	1.9	2.4	3.4
Total	**3,080.1**	**3,054.5**	**1,989.2**	**2,995.4**	**2,861.7**	**2,825.3**	**2,798.4**	**2,666.7**	**2,595.3**	**2,370.7**
Total U.S.	**8,140**	**8,432.8**	**8,680.1**	**8,972**	**8,903**	**8,688**	**8,648**	**8,571**	**8,600**	**8,551**

**Less than 100 barrels per day.
Source: American Petroleum Institute Data Book January 1990.

IPAA's New Outlook: Domestic Output Down, Imports Up, Demand Stable

(Add 000 b/d)

	1990 Forecast					
DEMAND	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	1990 Average	1989-90 % Chg.
Domestic Products			(Add 000 b/d)			
Motor Gasoline	6,990	7,501	7,485	7,354	7,334	0.1%
Aviation Fuels	1,516	1,466	1,523	1,582	1,522	0.7
Middle Distillates	3,363	3,039	2,907	3,457	3,191	(1.4)
Residual Fuel Oil	1,452	1,166	1,193	1,403	1,303	(3.4)
Other Products	3,767	3,702	3,992	3,946	3,857	0.9
Domestic Demand	17,106	16,874	17,100	17,742	17,207	(0.2)
Total Exports	827	802	782	320	808	(5.9)
TOTAL DEMAND	17,936	17,676	17,882	18,562	18,015	(0.5)

SUPPLY						
Domestic Production						
Crude Oil	7,332	7,275	7,135	7,140	7,225	(5.3)
Natural Gas Liquids	1,528	1,550	1,530	1,557	1,534	(0.1)
Total Production	8,860	8,825	8,675	8,697	[illegible]	(4.4)
Imports						
Motor Gasoline	407	425	434	419	421	(0.2)
Aviation Fuels	120	118	100	108	111	7.8
Middle Distillates	343	288	288	360	328	6.1
Residual Fuel Oil	[illegible]	525	477	534	571	(8.4)
Other Products	[illegible]	740	774	792	779	7.0
Total Products	2,410	2,098	2,054	2,283	2,210	1.7
Crude Oil Imports	5,976	6,018	6,474	6,137	6,153	7.0
Total Imports	8,386	8,116	8,527	8,420	8,363	5.5
Other Supply	1,161	825	1,019	881	963	23.0
TOTAL SUPPLY	18,427	17,766	18,221	18,000	[illegible]	1.2
Refinery Inputs	12,350	13,388	13,818	13,425	[illegible]	1.3

CLOSING STOCKS (millions of bbl.)						
Motor Gasoline	229.5	217.7	222.2	223.0	223.0	4.4
Aviation Fuels	48.5	47.6	49.8	46.6	46.6	8.1
Middle Distillates	105.5	112.0	134.3	131.2	131.2	18.4
Residual Fuel Oil	44.9	44.0	45.9	44.5	44.5	1.6
Other Products	256.7	265.5	292.0	261.0	261.0	4.1
Total Products	685.1	706.8	744.2	706.3	706.3	6.7
Crude Oil Stocks	362.4	349.2	343.0	338.2	338.2	(0.9)
TOTAL STOCKS	1,047.5	1,056.0	1,087.2	1,044.5	1,044.5	4.1

Source: IPAA Supply and Demand Committee, May, 1990.

The Independent Petroleum Assn. of America's latest petroleum supply and demand forecast is beginning to sound like a broken record—domestic production declining, imports rising, demand slack.

The forecast, released in May by IPAA's supply and demand committee, projects a drop in U.S. crude oil output to an average of 7.2-million b/d. "It is the lowest U.S. production level since 1954," IPAA says. Imported crude and products will jump 6% this year to an annual average of 8.4-million b/d, representing 49% of U.S. demand, compared to 46% in 1989.

Petroleum demand is forecast to remain essentially unchanged in 1990 at 17.2-million b/d. "Warmer weather during the first quarter of 1990 and the projected slowdown in U.S. economic growth are the primary reasons for slack demand," IPAA says.

U.S. Estimated Petroleum Balance (Add 000 b/d)

Petroleum Products Supplied From Primary Storage (a)	Full year			4th Quarter			3rd Quarter			2nd Quarter		
	1989	1988	% Chng.	1989	1988	% Chng.	1989	1988	% Chng.	1989	1988	% Chng.
Products Supplied:												
Motor gasoline, total	7,318	7,336	(0.2)	7,312	7,331	(0.3)	7,395	7,482	(1.2)	7,444	7,514	(0.9)
Finished leaded gasoline	826	1,341	(38.4)	592	1,210	(51.1)	756	1,317	(42.6)	920	1,454	(36.7)
Finished unleaded gasoline	6,492	5,995	8.3	6,720	6,121	9.8	6,639	6,165	7.7	6,524	6,060	7.7
Naphtha jet	210	213	(1.4)	224	221	1.4	209	207	1.0	204	215	(5.1)
Kerosine jet	1,280	1,236	3.6	1,378	1,271	8.4	1,305	1,215	7.4	1,195	1,178	1.4
Distillate fuel oil	3,155	3,121	1.1	3,447	3,322	3.8	2,897	2,777	4.3	2,861	2,837	0.8
Residual fuel oil	1,359	1,378	(1.4)	1,481	1,534	(3.5)	1,131	1,256	(10.0)	1,293	1,111	16.4
All other oils	4,142	4,160	(0.4)	4,307	4,337	(0.7)	4,116	4,283	(2.7)	3,939	3,861	-2.0
Reclassified	(168)	(161)	4.3	(181)	(158)	14.6	(179)	(137)	30.7	(144)	(115)	25.2
Total domestic products supplied	17,296	17,284	0.1	17,968	17,858	0.6	16,924	17,083	(0.9)	16,792	16,601	1.2
Exports	824	815	1.1	806	820	(1.7)	846	772	9.6	838	809	3.6
Total Products Supplied	**18,120**	**18,099**	**0.1**	**18,774**	**18,678**	**0.5**	**17,770**	**17,855**	**(0.5)**	**17,630**	**17,409**	**1.3**
Supply:												
Domestic production												
Crude oil	7,587	8,140	(6.8)	7,350	7,996	(8.1)	7,479	8,006	(6.6)	7,712	8,229	(6.3)
Natural gas liquids	1,565	1,625	(3.7)	1,514	1,654	(8.5)	1,552	1,618	(4.1)	1,658	1,620	2.3
Other supply	885	904	(2.1)	718	932	(23.0)	1,000	1,016	(1.6)	924	811	13.9
Total domestic supply	10,037	10,669	(5.9)	9,582	10,582	(9.5)	10,031	10,640	(5.7)	10,294	10,660	(3.4)
Imports:												
Crude oil, total (b)	5,786	5,055	14.5	6,037	5,233	15.4	6,288	5,083	23.7	5,776	5,221	10.6
Canadian	618	681	(9.3)	605	672	(10.0)	606	675	(10.2)	633	717	(11.7)
Other	5,168	4,374	18.2	5,432	4,561	19.1	5,682	4,408	28.9	5,143	4,504	14.2
Products, total	2,166	2,295	(5.6)	2,060	2,472	(16.7)	2,068	2,262	(8.6)	2,158	2,051	5.2
Residual Fuel oil	604	644	(6.2)	551	788	(30.1)	470	585	19.7	577	421	37.1
Other	1,562	1,651	(5.4)	1,509	1,684	(10.4)	1.598	1,677	(4.7)	1,581	1,630	(3.0)
Total imports	7,952	7,350	8.2	8,097	7,705	5.1	8,356	7,345	13.8	7,934	7,272	9.1
Total supply	**17,989**	**18,019**	**(0.2)**	**17,679**	**18,287**	**(3.3)**	**18,387**	**17,985**	**2.2**	**18,228**	**17,932**	**1.7**

(a) Preliminary; (b) Does not include SPR reports or reserves.
Source: American Petroleum Institute, Monthly Statistical Reports, 1989.

U.S. Refinery Operations (Add 000 b/d)

U.S. Refinery Operations (a)	Full year			4th Quarter			3rd Quarter			2nd Quarter		
	1989	1988	% Chng.	1989	1988	% Chng.	1989	1988	% Chng.	1989	1988	% Chng.
Input to crude oil distillation units	13,563	13,447	0.9	13,472	13,405	0.5	14,010	13,708	2.2	13,608	13,565	0.3
Operable capacity	15,671	15,928	(1.6)	15,630	15,925	(1.9)	15,613	15,960	(2.2)	15,671	15,910	(1.5)
Refinery utilization (%)	86.5	84.4	2.5	86.2	84.2	2.4	89.7	85.9	4.4	86.8	85.3	1.8
Crude oil runs	13,401	13,246	1.2	13,323	13,223	0.8	13,851	13,546	2.3	13,450	13,350	0.7

(a) Preliminary
Source: American Petroleum Institute, Monthly Statistical Reports, 1989.

Crude Oil and Product Inventories (Add 000,000 bbl.)

Stocks	Full Year			4th Quarter			3rd Quarter			2nd Quarter		
	1989	1988	% Chng.	1989	1988	% Chng.	1989	1988	% Chng.	1989	1988	% Chng.
Crude oil (a)	342.0	330.4	3.5	342.0	330.4	3.5	334.4	328.6	1.8	333.6	358.9	(7.0)
Unfinished oils	104.6	99.9	4.7	104.6	99.9	4.7	105.2	109.2	(3.7)	112.5	115.4	(2.5)
Total motor gasoline (b)	214.2	228.4	(6.2)	214.2	228.4	(6.2)	224.3	221.3	1.4	219.5	210.1	4.5
Finished leaded gasoline	17.4	40.2	(56.7)	17.4	40.2	(56.7)	21.7	41.9	(48.2)	24.7	42.7	(42.2)
Finished unleaded gasoline	160.0	149.7	6.9	160.0	149.7	6.9	162.1	140.8	15.1	156.0	132.2	18.0
Naphtha jet	5.9	6.1	(3.3)	5.9	6.1	(3.3)	7.0	6.5	7.7	6.0	6.7	(10.4)
Kerosine jet	35.6	37.7	(5.6)	35.6	37.7	(5.6)	40.4	40.1	0.7	40.0	38.8	3.1
Distillate fuel oil	108.0	123.5	(12.6)	108.0	123.5	12.6	122.6	131.5	(6.8)	100.9	110.4	(8.6)
Residual fuel oil	43.3	44.6	(2.9)	43.3	44.6	(2.9)	44.9	44.6	0.7	43.0	42.2	1.9
All other oils	135.8	167.1	(18.7)	135.8	167.1	(18.7)	211.7	191.9	10.3	199.9	179.3	11.5
Total all oils	**989.4**	**1,037.7**	**(4.7)**	**989.4**	**1,037.7**	**(4.7)**	**1,090.5**	**1,073.7**	**1.6**	**1,055.4**	**1,061.8**	**(0.6)**

(a) Does not include Strategic Petroleum Reserve; (b) Total includes leaded, unleaded and blending components.
Source: American Petroleum Institute, Monthly Statistical Report, December 1989.

Domestic Supply Trend (Add 000,000 bbl.)

Year	All products	Gasoline	Kerosine (a)	Distillate	Residual	LPG	Lubes	Other
1989 (b)	6,294	2,674	573	1,151	493	607	56	740
1988	6,261	2,670	481	1,132	487	631	58	802
1987	6,083	2,630	465	1,086	461	588	59	794
1986	5,943	2,576	439	1,064	518	555	52	739
1985	5,740	2,493	404	1,047	439	584	53	720
1980	6,932	2,536	397	1,389	1,033	414	58	1,105
1975	5,958	2,436	347	1,041	899	362	50	823
1970	5,364	2,131	358	927	804	363	50	731
1965	4,202	1,720	220	776	587	307	47	545
1960	3,610	1.512	132	685	559	227	43	427

(a) Kerosine includes jet fuel; (b) Preliminary.
Source: Energy Information Administration, Petroleum Supply Monthly, December 1989, Table 5, published in March 1990.

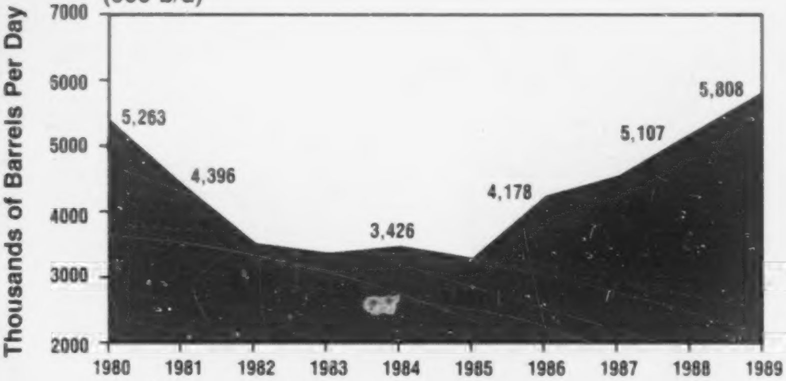
Petroleum Product Consumption—1988

(Add 000 bbl.)

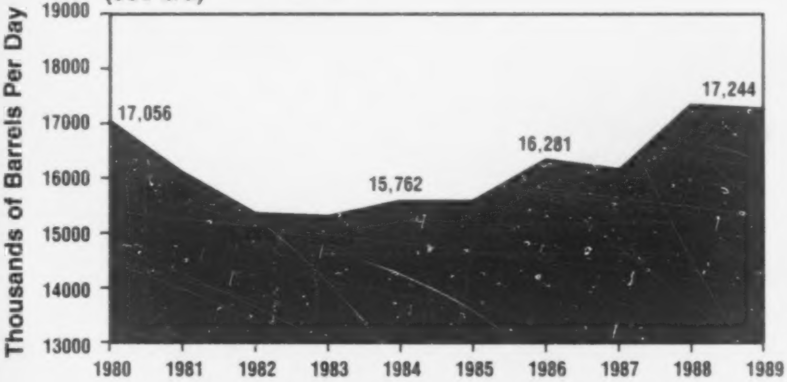
	Motor Gasoline	Aviation Fuels	Middle Distillates (a)	Residual Fuel Oil	Asphalt	Propane	All Other (b)	Total Products
Alabama	50,517	2,748	21,817	2,730	5,253	3,761	12,722	99,548
Alaska	5,533	15,965	8,780	6,059	702	186	5,454	42,679
Arizona	39,472	6,352	9,198	10	2,698	1,136	8,625	67,491
Arkansas	29,183	946	12,807	53	1,381	3,461	7,008	54,839
California	320,654	77,640	85,521	52,458	15,428	11,118	82,463	645,282
Colorado	36,582	5,910	10,104	238	3,572	3,016	8,706	68,128
Connecticut	31,901	1,771	16,389	28,162	1,864	1,144	11,902	93,133
Delaware	8,414	192	7,171	2,468	540	1,745	3,008	23,538
Dist. of Columbia	4,334	0	3,993	46	800	43	1,350	10,566
Florida	145,362	24,567	34,301	35,563	9,563	7,783	37,676	294,815
Georgia	81,303	17,481	25,745	2,471	7,296	6,147	20,577	161,020
Hawaii	8,226	9,672	3,397	15,242	353	357	5,457	42,704
Idaho	10,743	406	5,240	29	404	523	2,541	19,886
Illinois	103,103	3,172	28,986	2,437	5,635	10,091	22,479	175,903
Indiana	62,287	15,714	30,504	1,849	6,980	6,022	18,074	141,430
Iowa	32,218	660	17,073	26	2,226	5,512	8,456	66,171
Kansas	39,740	3,559	17,831	854	4,402	18,697	12,466	97,549
Kentucky	44,035	4,404	20,311	412	2,631	3,223	10,991	86,007
Louisiana	57,912	26,531	45,292	35,196	2,411	11,141	26,151	204,634
Maine	15,528	850	10,189	12,300	1,840	386	6,021	47,114
Maryland	45,440	2,963	20,519	9,197	4,709	1,364	12,336	96,528
Massachusetts	60,595	9,243	40,283	38,869	1,773	1,611	22,326	174,700
Michigan	102,715	6,860	25,758	1,579	3,839	10,137	22,108	172,996
Minnesota	48,215	4,666	18,810	1,229	4,925	6,184	12,312	96,341
Mississippi	36,433	7,260	20,917	309	2,641	8,975	11,214	87,749
Missouri	60,936	7,209	18,151	912	5,688	7,509	14,711	115,116
Montana	11,163	836	5,781	182	1,910	1,315	3,104	24,291
Nebraska	18,461	632	12,988	74	1,269	3,247	5,373	42,044
Nevada	14,626	4,860	6,596	119	936	816	4,096	32,049
New Hampshire	7,712	208	8,286	1,994	432	1,167	2,901	22,700
New Jersey	108,616	35,634	76,089	38,237	5,344	2,622	39,053	305,595
New Mexico	18,822	1,453	9,070	193	2,124	5,045	5,378	42,085
New York	125,255	3,700	65,535	60,059	9,250	4,887	39,367	308,053
North Carolina	80,284	5,505	32,489	6,696	5,437	7,399	20,192	158,002
North Dakota	7,989	676	6,535	190	1,188	2,654	2,818	22,050
Ohio	119,486	15,265	42,608	2,144	8,994	6,284	28,539	223,320
Oklahoma	50,874	7,922	18,138	1,233	3,584	6,430	12,920	101,101
Oregon	31,877	2,749	16,562	3,230	2,437	1,181	8,503	66,539
Pennsylvania	120,318	11,343	63,338	23,592	7,149	6,443	34,019	266,202
Rhode Island	12,947	602	9,069	2,234	2,144	410	4,015	31,421
South Carolina	39,595	1,052	13,492	3,613	3,882	3,052	9,478	74,164
South Dakota	8,824	1,132	5,756	2	883	1,253	2,615	20,465
Tennessee	67,991	3,718	28,349	442	5,468	2,834	15,941	124,743
Texas	311,108	97,101	144,562	45,710	14,514	80,756	101,647	795,398
Utah	19,469	4,953	7,854	451	1,075	1,330	5,147	40,279
Vermont	4,251	90	2,530	232	510	526	1,193	9,332
Virginia	71,992	11,428	35,332	8,301	4,653	2,874	19,718	154,298
Washington	53,931	18,018	24,286	13,573	1,932	2,382	16,721	130,843
West Virginia	15,054	494	6,945	350	884	298	3,520	27,545
Wisconsin	49,074	1,025	22,850	455	3,435	4,934	11,952	93,525
Wyoming	7,183	290	8,553	512	1,052	3,158	3,040	23,788
TOTAL U.S.	2,858,282	487,426	1,232,476	464,516	190,040	284,567	808,385	6,325,692

(a) Middle distillates include kerosine; (b) All other includes naphtha, lubricants, waxes, petroleum coke and still gas.
Source: Independent Petroleum Assn. of America, "The Oil and Gas Producing Industry in Your State," 1989-1990.

Crude Oil Imports (000 b/d)



Domestic Supply of Oil Products (000 b/d)



Unleaded Gasoline: The Growth by Years

(Add 000 b/d)

	Total Gasoline Consumption	Unleaded Gasoline Consumption	Unleaded Percent of total
1989 Average	**7,326**	**6,500**	**88.7**
January	6,732	5,753	85.4
February	7,045	6,119	86.3
March	7,421	6,381	86.0
April	7,150	6,238	87.2
May	7,416	6,486	87.5
June	7,803	6,886	88.3
July	7,316	6,518	89.1
August	7,709	6,917	89.7
September	7,225	6,428	89.0
October	7,256	6,586	90.8
November	7,356	6,746	91.7
December	7,420	6,909	93.1
1988 Average	**7,336**	**5,995**	**81.7**
January	6,693	5,395	80.6
February	7,039	5,607	79.7
March	7,323	5,894	80.5
April	7,430	5,991	80.6
May	7,303	5,861	80.3
June	7,817	6,336	81.1
July	7,482	6,144	82.1
August	7,556	6,232	82.5
September	7,404	6,115	82.6
October	7,271	5,988	82.4
November	7,379	6,157	83.4
December	7,344	6,220	84.7
1987 Avg.	**7,206**	**5,470**	**75.9**
1986 Avg.	**7,034**	**4,854**	**69.0**
1985 Avg.	**6,831**	**4,406**	**64.5**
1983 Avg.	**6,622**	**3,647**	**55.1**
1981 Avg.	**6,588**	**3,264**	**49.5**
1979 Avg.	**7,034**	**2,798**	**39.8**
1977(a) Avg.	**7,177**	**1,976**	**27.5**

(a) Unleaded was mandated in July, 1977.
Source: Energy Information Administration, Monthly Energy Review, December 1989.

Supply and Demand, Principal Products (Add 000 bbl.)

	Motor Gasoline	Aviation Gasoline	Distillate Fuel Oil	Residual Fuel Oil	Jet Fuel (a)	Lubricants	Asphalt
Domestic Supply							
1989(b)......................	2,641,140	9,427	1,150,845	492,750	542,305	56,400	165,221
1988..........................	2,677,640	9,809	1,139,530	502,970	524,733	58,638	178,726
Production							
1989(b)......................	2,543,320	9,199	1,058,135	347,480	512,127	59,738	154,997
1988..........................	2,538,940	9,208	1,043,535	337,990	524,733	62,653	165,511
Imports							
1989(b)......................	132,495	181	110,230	222,650	37,256	4,005	11,192
1988..........................	147,825	157	110,230	235,060	102,416	3,645	11,438

(a) Includes Naphtha and Kerosine-based fuels: (b) Preliminary including some estimates by NPN.

U.S. Oil Imports (a) (Add 000 b/d)

Year	Crude Oil	Other Products	Residual Fuel Oil	Total Imports	% of Total U.S. Supply
1989(b)	5,808	1,561	610	7,979	43.4%
1988..........	5,107	1,651	644	7,402	42.8
1987..........	4,674	1,439	565	6,678	40.0

(a) Does not include Strategic Petroleum Reserve; (b) Preliminary.
Source: Energy Information Administration, Petroleum Supply Monthly.

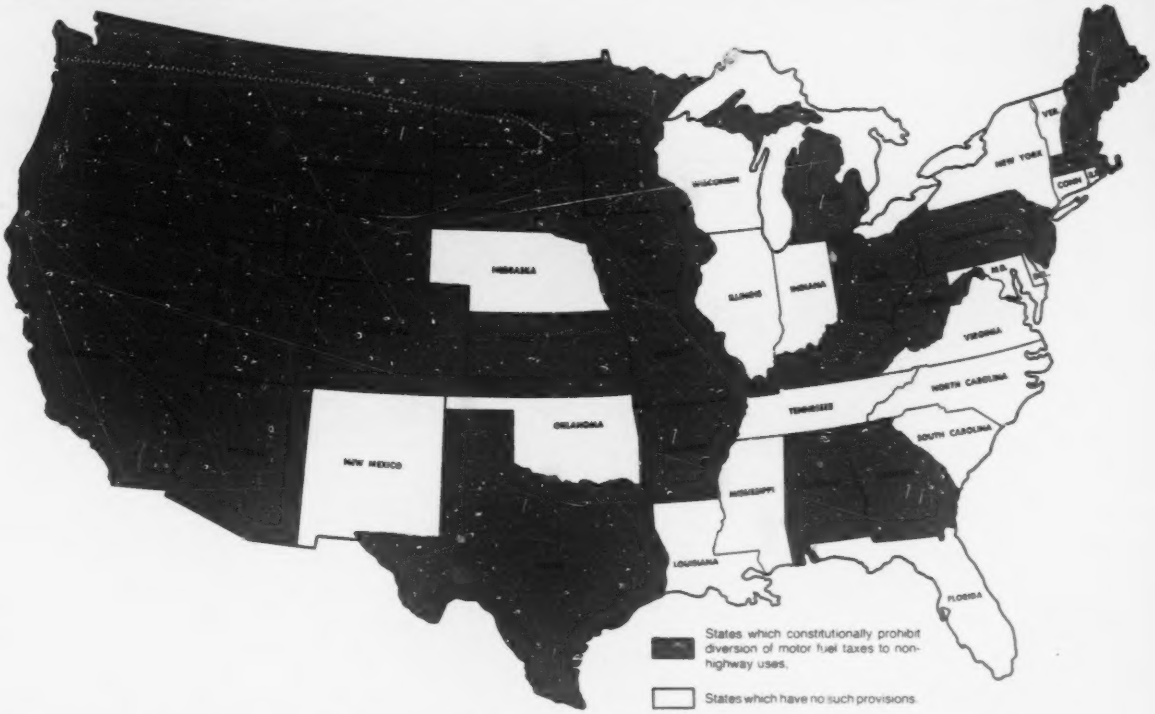
Origins of U.S. Oil Imports

	OPEC Sources		Arab OPEC		Hemispheres	
	000 b/d	% of total imports	000 b/d	% of total imports	Western 000 b/d	Eastern 000 b/d
1989(a)	4,116	51.6%	2,122	26.6%	4,513	3,466
1988............	3,520	47.6	1,839	24.8	4,361	3,077
1987............	3,060	45.8	1,274	19.1	4,069	2,608

(a) Preliminary.
Source: Energy Information Administration, Petroleum Supply Monthly.

	Total Well Completions			Proved Reserves (a)				Supply (Add 000 b/d)	
Year	Total	Dry	%Dry	Crude Oil (b)	Crude Production/ Reserve Ratio	Natural Gas (c)	Natural Gas Production/ Reserve Ratio	Domestic Crude & Natl. Gas Lqds.	Crude & Product Imports
1989(d)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9,233	7,979
1988...........	31,168	9,874	31.7%	26,825	9.5	168.7	9.0	9,815	7,193
1987...........	35,232	11,099	31.6	27,256	9.5	187.2	11.6	10,008	6,678

(a) As of Jan. 1 of each year; (b)Millions of bbl.; (c) Trillions of cubic feet; (d) Preliminary.
Source: Energy Information Administration and American Petroleum Institute.


NEBRASKA
WISCONSIN
ILLINOIS
INDIANA
NEW YORK
VER.
CONN
R.I.
MD.
VIRGINIA
NORTH CAROLINA
TENNESSEE
SOUTH CAROLINA
OKLAHOMA
NEW MEXICO
MISSISSIPPI
LOUISIANA
FLORIDA
■ States which constitutionally prohibit diversion of motor fuel taxes to non-highway uses.
□ States which have no such provisions.

State Motor Fuel Tax Collections

State	State Gasoline tax rates per gal. in 1989	Total State motor fuel tax revenues[a] (Add 000) 1989	1988	% Change
Alabama	13¢	$354,464	$336,984	5.2%
Alaska	8	20,183	21,150	-4.6
Arizona	17	326,999	327,431	-0.1
Arkansas	13.5	206,573	203,584	1.5
California	9	1,312,492	1,278,694	2.6
Colorado	18	305,573	305,180	0.1
Connecticut	20	298,734	300,658	-0.6
Delaware	16	62,832	62,087	1.2
Dist. of Col.	15.5	30,399	28,090	8.2
Florida	9.7	660,339	655,120	0.8
Georgia	7.5	333,698	324,572	2.8
Hawaii	11	43,661	41,650	4.8
Idaho	18	91,302	88,114	3.6
Illinois	13	772,840	720,829	7.2
Indiana	15	540,339	536,572	0.7
Iowa	18	332,033	291,778	13.8
Kansas	11	195,367	168,231	16.1
Kentucky	15	347,367	339,014	2.5
Louisiana	16	380,526	375,336	1.4
Maine	16	117,006	111,571	4.9
Maryland	18.5	466,479	455,711	2.4
Massachusetts	11	307,488	314,387	-2.2
Michigan	15	689,622	686,667	0.4
Minnesota	20	436,624	424,873	2.8
Mississippi	17	275,633	262,236	5.1
Missouri	11	349,597	346,383	0.9
Montana	20	100,988	102,613	-1.6
Nebraska	18.3	187,788	184,138	2.0
Nevada	16	132,522	127,584	3.9
New Hampshire	14	86,001	85,774	0.3

State	State Gasoline tax rates per gal. in 1988	Total State motor fuel tax revenue[a] (Add 000) 1989	1988	% Change
New Jersey	10.5	393,447	384,258	2.4
New Mexico	14	141,826	133,626	6.1
New York	8	538,875	525,292	2.6
North Carolina	15.7	742,781	624,294	19.0
North Dakota	17	72,541	72,399	7.8
Ohio	14.8	859,992	796,873	-0.3
Oklahoma	16	308,569	309,392	16.2
Oregon	14	222,545	191,554	-0.1
Pennsylvania	12	1,003,267	1,003,792	15.2
Rhode Island	15	76,804	66,644	15.2
South Carolina	15	299,922	289,681	3.5
South Dakota	18	72,072	72,172	-0.1
Tennessee	17	607,043	505,565	20.1
Texas	15	1,482,404	1,464,164	1.2
Utah	19	154,870	159,554	-2.9
Vermont	13	47,153	43,524	8.3
Virginia	17.5	616,996	597,321	3.3
Washington	18	460,900	440,831	4.6
West Virginia	10.5	147,986	111,192	33.1
Wisconsin	20.9	504,711	509,196	-0.9
Wyoming	8	37,983	37,372	1.6
Total U.S.	**13.42**	**18,557,158**	**17,825,645**	**4.1**
& change from prior year	**5.3%**	**4.1%**	**8.2%**	**-**

(a)Estimated for 1989. Both 1989 and 1988 totals include some miscellaneous "other receipts," however. These are smallish amounts. The bulk of the taxes herein are for gasoline. The totals do NOT include diesel fuel or LPG taxes.

Source: Federal Highway Administration, Table SS88-2, published October 1989.

State and Federal Gasoline Taxes—1989

(¢ per gal.)

State(a)	State gasoline tax rate	State gasohol tax rate	State diesel tax rate	State sales or special taxes**	State+9.0¢ Federal tax
Alabama	13.0	13.0	14.0	-	22.0
Alaska	8.0	0.0	8.0	-	17.0
Arizona	17.0	17.0	17.0	-	26.0
Arkansas	13.5	13.5	12.5	-	22.5
California	9.0	9.0	9.0	yes	18.0
Colorado	20.0	20.0	18.0	-	29.0
Connecticut	20.0	19.0	20.0	yes	29.0
Delaware	16.0	16.0	16.0	-	25.0
D.C.	18.0	18.0	18.0	-	27.0
*Florida	9.7	9.7	9.7	-	18.7
Georgia	7.5	7.5	7.5	yes	16.5
Hawaii	11.0	11.0	11.0	yes	20.0
Idaho	18.0	14.0	18.0	-	27.0
Illinois	19.0	16.0	22.5	yes	28.0
Indiana	15.0	15.0	16.0	yes	24.0
Iowa	20.0	19.0	22.5	-	29.0
Kansas	15.0	15.0	17.0	-	24.0
*Kentucky	15.0	15.0	12.0	-	24.0
Louisiana	20.0	20.0	20.0	-	29.0
Maine	17.0	17.0	20.0	-	26.0
Maryland	18.5	18.5	18.5	-	27.5
*Massachusetts	11.0	11.0	11.0	-	20.0
*Michigan	15.0	15.0	15.0	yes	24.0
Minnesota	20.0	18.0	20.0	-	29.0
Mississippi	18.0	18.0	18.0	-	27.0
Missouri	11.0	11.0	11.0	-	20.0
Montana	20.0	20.0	20.0	-	29.0
*Nebraska	22.0	19.0	22.0	-	31.0
Nevada	18.0	18.0	22.0	-	27.0
New Hampshire	14.0	14.0	14.0	-	23.0
New Jersey	10.5	4.5	13.5	-	19.5
New Mexico	16.2	13.2	16.2	-	25.2
New York	8.0	8.0	10.0	yes	17.0
*North Carolina	21.95	21.95	21.95	-	30.95
North Dakota	17.0	13.0	17.0	-	26.0
*Ohio	18.0	18.0	18.0	-	27.0
Oklahoma	16.0	16.0	13.0	-	25.0
Oregon	18.0	18.0	18.0	-	27.0
Pennsylvania	12.0	12.0	12.0	yes	21.0
*Rhode Island	20.0	20.0	20.0	-	29.0
South Carolina	16.0	10.0	16.0	-	25.0
South Dakota	18.0	16.0	18.0	-	27.0
Tennessee	21.0	21.0	17.0	-	30.0
Texas	15.0	15.0	15.0	-	24.0
Utah	19.0	19.0	19.0	-	28.0
Vermont	16.0	16.0	17.0	-	25.0
Virginia	17.7	17.7	16.2	-	26.7
Washington	18.0	16.2	18.0	-	27.0
*West Virginia	20.35	20.35	20.35	-	29.35
*Wisconsin	20.8	20.8	20.8	-	29.8
Wyoming	9.0	5.0	9.0	-	18.0

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*Variable tax expressed in cents/gal.

**California:6.25% sales tax; Connecticiut: 3% oil company gross receipts tax; Georgia: 4% tax on retail price; Hawaii: 4% sales tax; Illinois: 6% sales tax; Indiana: 5% sales tax; Michigan: 4% sales tax; New York: 4% sales tax and 2.75% of gross receipts from sale of petroleum products; Pennsylvania: 6% franchise tax on gross receipts.

Source: National Highway Users Federation, as of 12/31/1989.

Net Gasoline Revenues by States (a)

(Thousands of Dollars)

State	1989	1988	1987	1986	1985	State + 9.0¢ Federal Tax on gasoline (a)
Alabama	$288,895	$273,375	$269,040	$252,869	$245,035	22.0¢
Alaska	19,979	20,986	19,360	21,258	24,144	17.0
Arizona	323,014	323,549	314,240	294,210	229,543	26.0
Arkansas	206,573	203,548	198,430	197,101	169,804	22.5
California	1,309,012	1,275,415	1,258,470	1,200,981	1,140,251	18.0
Colorado	305,494	305,102	253,050	244,666	185,088	27.0
Connecticut	294,551	296,633	282,780	238,322	212,053	29.0
Delaware	62,805	62,064	52,920	41,878	39,552	25.0
Dist. of Col.	30,361	28,053	28,210	25,169	24,753	24.5
Florida	650,960	645,830	631,368	592,452	552,407	18.7
Georgia	330,365	321,118	307,425	293,307	278,403	16.5
Hawaii	43,641	41,632	41,250	39,132	32,609	20.0
Idaho	91,237	88,053	79,895	77,252	78,086	27.0
Illinois	772,840	720,879	726,510	672,139	639,106	22.0
Indiana	539,209	535,443	523,900	512,623	416,034	24.0
Iowa	330,534	290,321	259,925	244,149	193,555	27.0
Kansas	195,200	168,069	162,120	153,857	150,421	20.0
Kentucky	346,567	338,240	307,440	239,069	191,457	24.0
Louisiana	379,369	374,220	368,480	341,887	351,109	25.0
Maine	116,948	111,514	103,180	88,333	85,350	25.0
Maryland	452,829	441,989	378,465	309,172	290,548	27.5
Massachusetts	300,428	307,329	296,120	281,257	285,988	20.0
Michigan	674,500	671,559	683,700	648,462	625,063	24.0
Minnesota	435,378	423,688	359,380	341,399	340,704	29.0
Mississippi	259,678	246,381	174,640	136,846	129,522	26.0
Missouri	348,178	344,478	297,440	215,445	208,208	20.0
Montana	100,657	102,292	91,945	80,177	78,966	29.0
Nebraska	187,775	164,125	163,472	152,691	129,180	27.3
Nevada	132,096	127,148	95,700	78,993	71,662	27.0
New Hampshire	79,141	79,025	78,120	71,115	66,231	23.0
New Jersey	393,447	383,697	308,930	349,050	312,791	19.5
New Mexico	141,826	113,626	127,025	103,709	98,149	23.0
New York	538,875	525,277	526,320	499,707	491,730	17.0
North Carolina	742,781	607,505	572,260	488,511	405,450	24.7
North Dakota	72,541	68,268	56,940	48,648	52,242	26.0
Ohio	858,992	796,873	745,690	604,960	549,637	23.8
Oklahoma	308,569	308,751	210,200	202,212	194,567	25.0
Oregon	222,545	191,312	151,800	141,149	125,967	23.0
Pennsylvania	1,003,267	997,123	393,160	920,233	892,469	21.0
Rhode Island	76,804	66,644	63,450	55,315	48,403	24.0
South Carolina	292,922	283,115	264,880	254,450	247,003	24.0
South Dakota	77,072	70,973	57,330	51,921	51,406	27.0
Tennessee	607,043	469,316	467,880	391,857	294,541	26.0
Texas	1,482,404	1,464,164	1,463,400	1,002,272	990,886	24.0
Utah	154,870	158,724	157,886	113,435	112,265	28.0
Vermont	47,153	43,524	39,660	39,004	37,949	22.0
Virginia	616,996	597,001	572,090	441,740	400,424	26.5
Washington	460,900	440,800	430,200	406,527	399,635	27.0
West Virginia	147,986	111,192	93,975	102,883	100,947	19.5
Wisconsin	504,711	509,196	440,181	403,094	374,029	29.9
Wyoming	37,983	37,785	31,680	35,319	34,278	17.0
Total U.S.	**$18,557,158**	**$17,597,180**	**$16,527,912**	**$14,742,487**	**$13,683,250**	**22.42¢**
% Change vs. Preceding Period	**5.5%**	**6.5%**	**12.1%**	**7.7%**	**-**	**5.3%**

(a) Does not include sales and special taxes levied in some states and municipal areas; does not include "other receipts" from gasoline sales.
Source: Federal Highway Administration, Table SS88-2, published October 1969; data for 1989 are estimates.

Auto, Truck and Farm Tire Shipments

Type of Tire
(Add 000)

	Passenger	% of Market	Bus/ Truck	% of Market	Farm Equipment	% of Market	Total of Market Type	% of Total
1989								
Original Equipment	51,170	84.9%	8,177	4.3%	890	1.5%	60,237	22.5%
Replacement	153,281	80.1	35,436	18.5	2,664	1.3	191,381	71.4
Export	12,437	76.5	3,548	21.8	270	1.7	16,255	6.1
Total	**216,888**	**81.0**	**47,161**	**17.6**	**3,824**	**1.4**	**267,873**	—
1988								
Original Equipment	54,131	84.6%	8,801	13.8%	753	1.2%	61,253	23.7%
Replacement	155,292	80.9	33,918	17.7	2,662	1.4	189,064	73.1
Export	9,365	72.4	3,301	25.5	267	2.1	8,282	3.2
Total	**218,788**	**81.5**	**46,020**	**17.1**	**3,682**	**1.4**	**258,699**	—

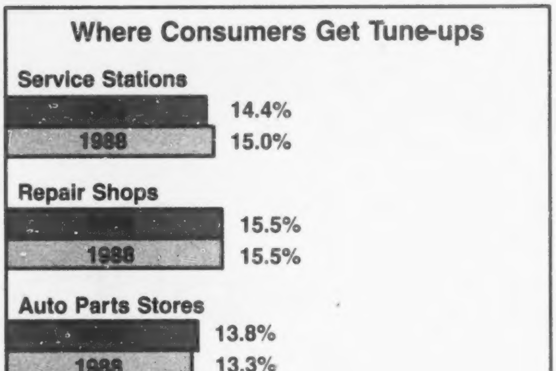
Source: Rubber Manufacturers Assn., Monthly Statistical Report, December 1989.

Exports Bail Out '89 Tire Market

Exports saved the tire industry from a negative fiasco in 1989, Rubber Manufacturers Assn. says. Overall, passenger car shipments were flat while bus, truck and farm shipments were up slightly. Exports were up a rousing 96.3%. Original equipment and replacement shipments for passenger cars lagged badly.

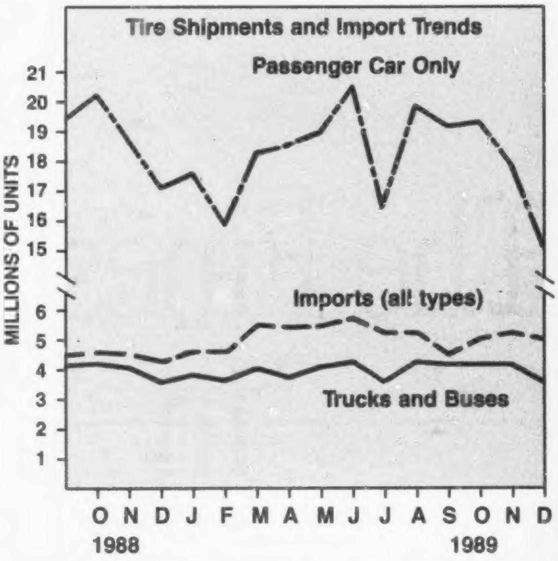
'89 vs. '88	Passenger	Bus/ Truck	Farm Equipment	Total by Type of Market
Original equipment	(5.8%)	7.6%	18.2%	(1.7%)
Replacement	(1.2)	4.4	—	1.2
Export	32.8	7.5	1.1	96.3
Total	**(0.1)**	**2.5**	**3.9**	**3.5**

Source: Rubber Manufacturers Assn., Monthly Statistical Report.



Source: Champion Spark Plug Co.

N.B. Because the questionnaires were revised and the categories were changed in 1988, the data in this chart are not comparable to prior Factbook issues.



Source: Rubber Manufacturer's Assn., Monthly Reports, 1989.

1989 Ethylene Glycol-Base Antifreeze Sales

(Add 000 gal.)

	Civilian	Government
Packaged ethylene glycol antifreeze sold in quart and gallon sizes	90,892,867	—
in drums	6,177,536	
Total	**97,070,403**	—
Bulk ethylene glycol antifreeze (or ethylene glycol for antifreeze) sold to packagers	44,889,753	252,300
Bulk ethylene glycol antifreeze (or ethylene glycol for antifreeze) sold to motor vehicle manufacturers for "drive-away" or factory fill use	18,385,632	
Total	**160,345,788**	
Grand total (civ. and gov't.)		**160,598,088**

Source: Chemical Specialty Mfrs. Assn.

Replacement Batteries Up in 1989

Battery shipments (replacement and original equipment) edged down slightly in 1989 from the record high of 74.7-million units in 1988. The slight decline in the total was a result of a drop in original equipment shipments from 11.2-million in 1988 to 9.9-million in 1989. However, replacement battery shipments were up 1.4% over 1988 to a record new total of 64.4-million units. Replacement batteries had almost 87% of the total domestic market last year. This was the best market share for replacements since 1982.

(Add 000)

Year	Replacements	% of Market	New cars & trucks	% of Market	Total market	% Change from previous year
1989	64,433	86.6%	9,933	13.4%	74,366	−0.4
1988	63,487	85.0	11,190	15.0	74,677	5.5
1987	59,878	84.6	10,910	15.4	70,788	−1.1
1986	60,306	84.2	11,335	15.8	71,641	+1.8
1985	58,684	83.4	11,649	16.6	70,333	—
1984	59,333	84.5	10,925	15.5	70,258	5.0
1983	56,105	83.8	10,823	16.2	66,928	7.9
1982	54,214	87.4	7,819	12.6	62,033	0.8
1981	53,598	87.1	7,956	12.9	61,554	6.0
1980	50,063	86.2	8,009	13.8	58,072	−11.0
1979	53,746	82.4	11,480	17.6	66,226	−6.2
1977	54,601	81.2	12,639	18.8	67,240	10.8
1975	42,582	82.5	8,985	17.6	51,567	−5.3

Source: Replacement battery figures supplied by Battery Council International. New cars and trucks are U.S. factory sales figures provided by Motor Vehicle Manufacturers Assn.

Replacement Batteries

Replacement battery shipments totaled 64.4-million units in 1989, with 12-volt and 6-volt accounting for 87% of the total, according to Battery Council International. Here are the highlights of its annual report.

Replacement Batteries:

Passenger cars and light trucks:

12-volt: 50,370,366, or 78.3% of the total; 6-volt: 742,498, or 1.2% of the total.

Heavy duty commercial:

12-volt: 3,842,624, or 6.0% of the total; 6-volt: 1,041,517, or 1.6% of the total.

Original Equipment:

Passenger cars and light trucks:

12-volt: 11,086,684, or 82.0% of the total; 6-volt: 5,759, or 0.004% of the total.

Heavy duty commercial:

12-volt: 852,711 or 6.3% of the total; 6-volt: 29,865 or 0.1% of the total.

Car Lubrication Service

1990 Crankcase Drain Intervals and Recommended Oil

		Normal Service		Severe Service		
Make	Model	Miles	Months	Miles	Months	Type Of Oil
Eagle	Premier	7,500	7.5	3,000	3	SG SG/CD
	Summit	7,500	12	3,000	3	SG SF/CC
Talon	w/Turbo	5,000	6	3,000	3	SG SF/CC
	Others	7,500	12	3,000	3	SG SF/CC
Chrysler Corp.	Turbo	7,500(a)	6(a)	3,000	3	SG SG/CD
	Others	7,500	12	5,000	6	
Ford Motor Co.	Supercharged	5,000	6	3,000	3	SG
	Others	7,500	6	3,000	3	
General Motors	Turbo	3,000	3	3,000	3	SG
	Others	7,500	12	3,000	3	SG

(a) Change oil every 3,000 miles or 3 months if SG/CD oil is not used.

Source: Chek-Chart Publications, Simon & Schuster Inc.

1990 Automatic Transmission/Transaxle Drain Intervals and Recommended Fluids

		Normal Service		Severe Service	
Make	Fluid	Months	Miles	Months	Miles
Eagle	(a)	30	30,000	—	15,000(b)
Chrysler Corp.	Mopar ATF-Plus®	—	—	—	15,000
Ford Motor Co.	MERCON®	—	—	—	30,000
General Motors	Dexron®-II	—	100,000	—	15,000

(a) Premier MERCON®; others, Mopar ATF-Plus®
(b) Premier only

1990 Chassis Lubrication Intervals (Models with fittings)

	Normal Service		Severe Service			
Make	Months	Miles	Months	Miles	Type	Part or Specification No.
Eagle....................	—	—	—	—	—	—
Chrysler Corp..............	36	30,000	18	15,000	#2 Barium EP	4318063
Ford Motor Co.............	—	15,000	—	—	#2 Lithium EP with polyethylene 8-molybdenum disulfide	M1C75-B
General Motors............	12	7,500	6	6,000	#1-2 Multipurpose EP	1050679

Source: Chek-Chart Publications, Simon & Schuster Inc.

U.S. Refineries and Capacities by Companies

(In descending order as of Jan. 1, 1989)

Important note: This listing includes capacity that is operational and capacity that is idle or shut down. In the latter case, this capacity can be restored to normal within 90 days. The Energy Information Administration says there were 204 operable refineries on Jan. 1, 1989, compared with a total of 213 the preceding year. The crude distillation capacity was 15.7-million b/d, compared with the year ago figure of 15.9-million b/d. For earlier data, see 1989 NPN Factbook.

Companies with a capacity of more than 100,000 b/d. Number of companies: 31; Total capacity: 13,625,940 b/d.

Company	b/d
Chevron U.S.A. Inc.	
El Segundo, Calif.	330,000
Port Arthur, Texas	329,900
Pascagoula, Miss.	295,000
Richmond, Calif.	270,000
Philadelphia, Pa.	175,000
Perth Amboy, N.J.	80,000
El Paso, Texas	66,000
Honolulu, Hawaii	48,000
Salt Lake City, Utah	45,000
Kenai, Alaska	22,000
Total	**1,660,000**
Exxon Co. U.S.A.	
Baytown, Texas	493,000
Baton Rouge, La.	455,000
Linden, N.J.	130,000
Benicia, Calif.	128,000
Billings, Mont.	42,000
Total	**1,248,000**
Shell Oil Co.	
Wood River, Ill.	274,000
Deer Park, Texas	215,900
Norco, La.	215,000
Martinez, Calif.	140,100
Carson, Calif.	125,000
Anacortes, Wash.	84,000
Odessa, Texas	28,600
Total	**1,082,600**
Amoco Oil Co.	
Texas City, Texas	420,000
Whiting, Ind.	350,000
Mandan, N.D.	58,000
Yorktown, Va.	51,000
Salt Lake City, Utah	40,000
Casper, Wyo.	40,000
Savannah, Ga.	28,000
Total	**987,000**
Mobil Oil Corp.	
Beaumont, Texas	275,000
Joliet, Ill.	180,000
Chalmette, La.(1)	145,000
Torrance, Calif.	123,000
Paulsboro, N.J.	100,000
Total	**823,000**
BP America Inc.	
BP Oil Corp.	
Belle Chasse, La.(2)	213,640
Marcus Hook, Pa.	172,000
Lima, Ohio(2)	167,500
Toledo, Ohio(2)	126,100
Ferndale, Wash.(3)	77,400
Total	**756,640**
Atlantic Richfield Co.	
Arco Products Co.	
Los Angeles, Calif.	214,000
Ferndale, Wash.	163,000
Lyondell Petrochemical Co.	
Houston, Texas	285,000
Arco Alaska Inc.	
Anchorage, Alaska	12,000
Prudhoe Bay, Alaska	12,000
Total	**686,000**
Star Enterprise(4)	
Port Arthur/Port Neches, Texas	250,000
Convent, La.	225,000
Delaware City, Del.	140,000
Total	**615,000**
U.S. Steel Corp.	
Marathon Petroleum Co.	
Garyville, La.	255,000
Robinson, Ill.	160,000
Texas City, Texas	69,500
Detroit, Mich.	68,500
Total	**553,000**
Unocal Corp.	
Lemont, Ill.	147,000
Nederland, Texas	120,000
Wilmington, Calif.	108,000
Rodeo, Calif.	71,900
Arroyo Grande, Calif.	41,000
Total	**487,900**
E I Du Pont De Nemours & Co.	
Conoco Inc.	
Westlake, La.	156,500
Ponca City, Okla.	136,000
Billings, Mont.	48,500
Commerce City, Colo.	44,000
Santa Maria, Calif.	9.500
Egan, La.	2,800
Total	**397,300**
Sun Co Inc.	
Marcus Hook, Pa.	170,000
Toledo, Ohio	125,000
Tulsa, Okla.	85,000
Total	**380,000**
Ashland Oil Inc.	
Catlettsburg, Ky.	213,400
St. Paul, Minn.	67,100
Canton, Ohio	66,000
Total	**346,500**
Citgo Petroleum Corp./Petroleos De Venezuela	
Citgo Petroleum Corp.	
Lake Charles, La.	305,000
Koch Industries Inc.	
Koch Refining Co.	
St. Paul, Minn.	180,000
Corpus Christi, Texas	125,000
Total	**305,000**
Phillips 66 Co.	
Sweeny, Texas	175,000
Borger, Texas	105,000
Woods Cross, Utah	25,000
Total	**305,000**
Trans America Refining Co.	
Good Hope, La.	300,000
Texaco Refining & Marketing Inc.	
Anacortes, Wash.	97,000
El Dorado, Kan.	78,000
Wilmington, Calif.	57,000
Bakersfield, Calif.	47,000
Total	**279,000**
Solomon Inc.	
Hill Petroleum Co.	
Texas City, Texas(5)	119,600
Houston, Texas	65,000
Krotz Springs, La.	57,500
St. Rose, La.	34,000
Total	**276,100**
Coastal Corp., The	
Coastal Eagle Point Oil Co.	
Westville, N.J.	90,000
Coastal Refining & Marketing Inc.	
Corpus Christi, Texas	90,000
Derby Refining Co.	
El Dorado, Kan.	30,400
Wichita, Kan.	28,800
Belcher Oil Co.	
Chickasaw, Ala.	26,600
Total	**265,800**
Total Petroleum Inc.	
Ardmore, Okla.	60,500
Arkansas City, Kan.	53,600
Alma, Mich.	42,000
Colorado Refining Co.	
Commerce City, Colo.	28,000
Total	**184,100**
Fina Oil & Chemical Co.	
Port Arthur, Texas	110,000
Big Springs, Texas	55,000
Total	**165,000**
Diamond Shamrock Refining & Marketing Co.	
Sunray, Texas	105,000
Three Rivers, Texas	51,000
Total	**156,000**
Kerr-McGee Corp.	
Southwestern Refining Co. Inc.	
Corpus Christi, Texas	104,000
Kerr-McGee Refining Corp.	
Wynnewood, Okla.	43,000
Cotton Valley, La.	7,800
Total	**154,800**

Company	b/d
Mapco Petroleum Inc.	
North Pole, Alaska	90,000
Memphis, Tenn.	58,000
Total	**148,000**
Petroleos De Venezuela	
Champlin Refining Co.	
Corpus Christi, Texas	130,000
Horsham Corp.(6)	
Clark Oil & Refining Corp.	
Blue Island, III.	64,600
Hartford, Ill.	63,600
Total	**128,200**
Tosco Corp.	
Martinez, Calif.	126,000
Sinclair Oil Corp.	
Sinclair, Wyo.	54,000
Tulsa, Okla.	47,000
Little America Refining Co.	
Evansville, Wyo.	24,500
Total	**125,500**
Atlantic Refining & Marketing Corp.	
Philadelphia, Pa.	125,000
Murphy Oil U.S.A. Inc.	
Meraux, La.	92,500
Superior, Wis.	32,000
Total	**124,500**

Companies with capacity of 30,001 to 100,000 b/d. Number of companies: 27; Total capacity: 1,457,920 b/d.

Company	b/d
Crown Central Petroleum Corp.	
Pasadena, Texas	100,000
Farmland Industries Inc.	
Coffeyville, Kan.	56,500
Phillipsburg, Kan.	26,400
Total	**82,900**
LL&E Petroleum Marketing Inc.	
Saraland, Ala.	80,000
Pacific Resources Inc.	
Hawaiian Independent Refinery Inc.	
Ewa Beach, Hawaii	78,500
National Cooperative Refinery Assn.	
McPherson, Kan.	75,600
Tesoro Petroleum Corp.	
Kenai, Alaska	72,000
Pennzoil Products Co.	
Shreveport, La.	46,200
Rouseville, Pa.	15,700
Roosevelt, Utah	8,000
Total	**69,900**
United Refining Inc.(7)	
United Refining Co.	
Warren, Pa.	60,000
Vulcan Refining Co.	
Cordova, Ala.	9,500
Total	**69,500**
American Ultramar Ltd.	
Ultramar Refining(7)	
Wilmington, Calif.	65,000
Coastal Corp./Sinochem	
Pacific Refining Co.	
Hercules, Calif.	55,000
Pauley Petroleum Inc.	
Fletcher Oil & Refining Co.	
Carson, Calif.	29,500
Newhall Refining Co. Inc.	
Newhall, Calif.	22,500
Total	**52,000**
Rock Island Refining Corp.	
Indianapolis, Ind.	49,000
Lion Oil Co.	
El Dorado, Ark.	48,000
Paramount Acquisition Corp.	
Paramount Petroleum Corp.	
Paramount, Calif.	46,500
Placid Oil Co.	
Placid Refining Co.	
Port Allen, La.	46,000
Texas Eastern Corp.	
La Gloria Oil & Gas Co.	
Tyler, Texas	46,000
Pride Refining Inc.	
Abilene, Texas	42,750
Thrifty Oil Co.	
Golden West Refining Co.	
Santa Fe Springs, Calif.	42,000
Cirillo Brothers Oil Co.	
Cibro Petroleum Products Inc.	
Albany, New York	41,850
Sulfer Mountain Corp.(9)	
Edgington Oil Co.	
Long Beach, Calif.	41,600
Cenex	
Laurel, Mont.	41,450
Holly Corp.	
Navajo Refining Co.	
Artesia, N.M.	34,700
Montana Refining Co.	
Great Falls, Mont.	6,500
Total	**41,200**
Frontier Refining Co.	
Cheyenne, Wyo.	38,670
Sargent Holdings Ltd.	
Powerine Oil Co.	
Santa Fe Springs, Calif.	35,000
Hunt Oil Co.	
Tuscaloosa, Ala.	33,500
Gary Energy Corp.	
Bloomfield Refining Co.	
Bloomfield, N.M.	16,800
Western Slope Refining Co.(10)'	
Fruita, Colo.	15,200
Time Oil Co.	
U.S. Oil & Refining Co.	
Tacoma, Wash.	32,000

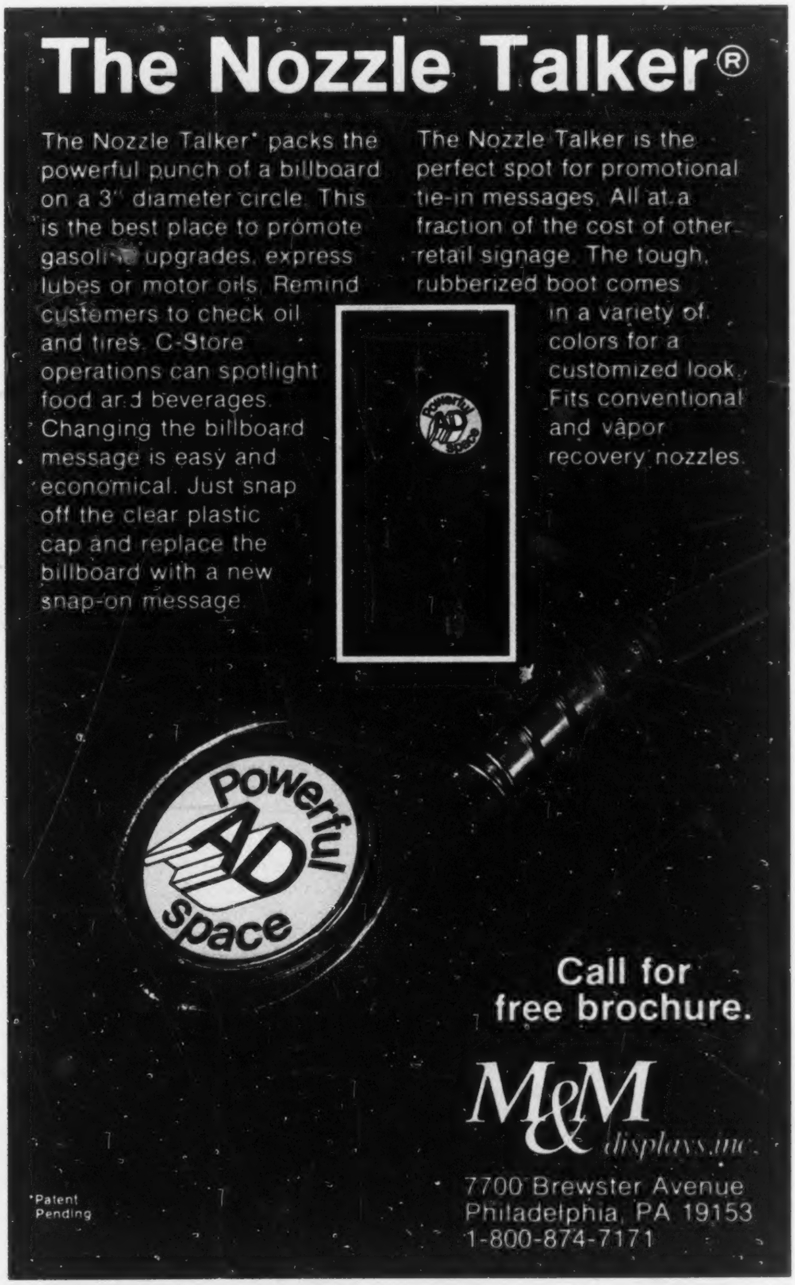
Companies with capacity 10,001 to 30,000 b/d. Number of companies: 20; Total capacity: 406,305 b/d.

Company	b/d
Amerada Hess Corp.	
Purvis, Miss.	30,000
American International Petroleum Corp.	
American International Refinery Inc.(11)'	
Lake Charles, La.	27,000
Petroserve Ltd.	
Trifinery	
Corpus Christi, Texas	27,000
El Paso Refining Co. Ltd.	
El Paso, Texas	25,500
Crysen Corp.	
Crysen Refining Inc.	
Woods Cross, Utah	12,500
Sound Refining Inc.	
Tacoma, Wash.	11,900
Total	**24,400**
San Joaquin Refining Co. Inc.	
Bakersfield, Calif.	24,300
Flying J Petroleum Inc.	
Big West Oil Co.	
North Salt Lake, Utah	24,000
Kern Oil & Refining Co.	
Bakersfield, Calif.	21,400
Indiana Farm Bureau Cooperative Assn.	
Mount Vernon, Ind.	21,200
Leal Petroleum Corp.	
Nixon, Texas	20,900
Ergon Inc.	
Ergon Refining Inc.	
Vicksburg, Miss.	20,600
Valero Refining Co.	
Corpus Christi, Texas	20,000
Quaker State Oil Refining Corp.	
Newell, W.Va.	12,150
Smethport, Pa.	6,700
Total	**18,850**
Giant Refining Co.	
Gallup, N.M.	18,000
VGS Corp.	
Southland Oil Co.	
Sandersville, Miss.	11,000
Lumberton, Miss.	5,800
Total	**16,800**
Chemoil Refining Corp.(12)	
Long Beach, Calif.	14,200
Huntway Refining Co.	
Benicia, Calif.	8,600
Wilmington, Calif.	5,500
Total	**14,100**
Calcasieu Refining Co.	
Lake Charles, La.	13,500
Wyoming Refining Co.	
Newcastle, Wyo.	12,555
World Oil Co.	
Sunland Refining Corp.	
Bakersfield, Calif.	12,000

Companies with capacity 10,000 b/d or less. Number of companies: 29; Total capacity: 164,709 b/d.

Company	b/d
Barrett Refining Corp.	
Thomas, Okla.	10,000
City Gas & Transmission Corp.	
Wilmington, N.C.	10,000

Company	b/d
Endevco Inc.(13) Dubach, La.	10,000
Witco Corp. Bradford, Pa.	9,915
Gibson Oil & Refining Co. Inc. Bakersfield, Calif.	9,600
Asphalt Materials(14) **Laketon Refining Corp.** *Laketon, Ind.	8,700
Lunday Thagard Co. South Gate, Calif.	8,100
Anchor Gasoline Corp. **Canal Refining Co.** Church Point, La.	8,000
Claiborne Gasoline Co. Lisbon, La.	7,500
Petro Star North Pole, Alaska	7,000
Moore & Munger Marketing & Refining Inc. **Cross Oil & Refining Co. of Arkansas** Smackover, Ark.	6,700
Thriftway Co. Bloomfield, N.M.	6,100
Transcontinental Energy Corp. **Petro Source Resources Inc.**(5) Vicksburg, Miss.	6,000
Somerset Refinery Inc. Somerset, Ky.	5,500
Young Refining Corp. Douglasville, Ga.	5,079
Donna Refinery Partners Ltd. Donna, Texas	4,750
Mid Atlantic Fuels Inc. St Mary's, W.Va.	4,658
Howell Hydrocarbons Corp. San Antonio, Texas	4,500
Nevada Refining Co. Tonopah, Nev.	4,500
Calumet Refining Co. Princeton, La.	4,207
Oil Holding Inc. **Tenby Inc.**(15) Oxnard, Calif.	4,000
Warrior Asphalt Refining Corp. Holt, Ala.	4,000
Martin Gas Sales Inc. **Berry Petroleum Co.** Stephens, Ark.	3,700
Primary Oil & Energy Corp. Chester, Va.	3,700
B-T Energy Corp. **GNC Energy Corp.** Greensboro, N.C.	3,000
Crystal Refining Co. Carson City, Mich.	3,000
Kentucky Oil & Refining Co. Troy, Ind.	1,500
Petrolite Corp. Kilgore, Texas	1,000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Footnotes:

(1) Formerly Tenneco Oil Co.
(2) Formerly Standard Oil Co.
(3) Formerly Mobil Oil Co.
(4) Formerly Texaco Refining & Marketing Inc.
(5) Formerly Texas City Refining Inc.
(6) Formerly Apex Oil Co.
(7) Formerly Coral Petroleum Co.
(8) Formerly Union Pacific Resources Co.
(9) Formerly Triad Terminal Corp.
(10) Formerly Gary Energy Corp.
(11) Formerly Lake Charles Refining Co.
(12) Formerly Macmillan Petroleum Co.
(13) Formerly Kerr-McGee Refining Corp.
(14) Formerly Young Refining Corp.
(15) Formerly Oxnard Refinery

*Refinery was reactivated Jan. 1, 1989.

Lubrication Oil and Wax Capacities of U.S. Refineries

(All capacities in 000 b/d) as of Jan. 1, 1989

			Finished Lube Capacity					Wax Capacity	
Company	Location	Crude Capacity	A	B	C	D	Total	E	F
Amoco Oil Co.	Caspar, Wyo.	40.0	1.5				1.5		0.3
Amoco Oil Co.	Whiting, Ind.	350.0	6.2				6.2	0.6	
Ashland Oil, Inc.	Catlettsburg, Ky.	205.0	8.0				8.0		2.8
BP America	Lima, Ohio	178.0	2.4				2.4		0.6
Calumet Refining Co.	Burnham, Ill.					0.6	0.6		
Calumet Refining Co.	Princeton, La.	4.4					3.2		
Chevron U.S.A. Inc.	Port Arthur, Tex.	329.0	6.6	0.1		0.1	9.7		3.8
Chevron U.S.A. Inc.	Richmond, Calif.	270.0					9.4	1.2	1.0
Cit-Con Oil Corp.	Lake Charles, La.		9.1				9.1	1.0	0.8
Conoco Inc.	Ponca City, Okla.	137.4	2.3				2.3	0.3	0.5
Cross Oil and Refining Co., Inc.	Smackover, Ark.	7.0					4.0		
Diamond Shamrock	Three Rivers, Tex.	45.0					1.4		
Ergon, Inc. (Lion Oil Co. Affiliate)	El Dorado, Ark.	50.0							
Ergon Refining, Inc.	Vicksburg, Miss.	17.0					3.0		
Exxon Co., U.S.A.	Baton Rouge, La.	421.0	16.0	0.5			16.5	1.7	
Exxon Co., U.S.A.	Baytown, Tex.	426.0	18.0		9.0		31.2		2.0
Lyondell Petrochemical Co.	Houston, Tex.	260.0					7.0		0.4
Mobil Oil Corp.	Beaumont, Tex.	275.0	8.9				8.9	1.6	0.3
Mobil Oil Corp.	Paulsboro, N.J.	100.0	7.5				7.5		
Pennzoil Co.	Rouseville, Pa.	15.7					4.4	0.6	0.4
Pennzoil Co./Atlas Processing Co.	Shreveport, La.	46.2	4.5				8.6	0.8	
Petrolite Corp.	Barnsdall, Okla.							0.4	
Petrolite Corp., Bareco Div.	Kilgore, Tex.	1.0							0.3
Quaker State Oil Ref. Corp.	Emlenton, Pa.							0.7	
Quaker State Oil Ref. Corp.	Bradford, Pa.	6.5	1.7				1.7	0.4	0.5
Quaker State Oil Ref. Corp.	Newell, W.V.	10.5					3.6		0.5
San Joaquin Refining Co., Inc.	Bakersfield, Calif.	21.0			2.4	0.5	2.9		
Shell Oil Co.	Deer Park, Tex.	215.9	4.5				9.5	1.0	
Shell Oil Co.	Martinez, Calif.	140.1			4.0		4.0		
Shell Oil Co.	Wood River, Ill.	274.0	4.0				4.0		
Star Enterprises (Formerly Texaco U.S.A.)	Port Arthur, Tex.	250.0	16.0		1.0		17.0		1.8
Sun Company, Inc.	Marcus Hook, Pa.	170.0				4.0	10.0		
Sun Company, Inc.	Tulsa, Okla.	85.0	7.5				7.5	0.8	
Sun Company, Inc.	Yabucoa, Puerto Rico	85.0					8.8		2.1
Unocal	Nederland, Tex.								1.3
Unocal	Rodeo, Calif.	77.0	4.6				4.6	0.7	1.2
Witco Chemical Corp.	Bradford, Pa.	10.0	1.6	0.9			2.5	0.2	
Witco Chemical Corp.	Oildale, Calif.	11.0			2.9	1.5	5.3		
	TOTAL:	**4533.7**	**130.9**	**1.5**	**19.3**	**6.7**	**226.3**	**12.0**	**19.4**

Canadian Refineries

Esso Petroleum Canada	Sarnia, Ontario	126.0	5.7		0.6		6.3		2.0
Esso Petroleum Canada	Strathcona, Alberta	155.0					2.8		0.7
International Waxes, Ltd.	Agincourt, Ontario							1.0	
Petro-Canada Products	Clarkson, Ontario	41.5					4.9		1.0
Shell Canada, Ltd.	Montreal East, Quebec	28.0	2.7				2.7		1.3
	TOTAL:	**350.5**	**8.4**		**0.6**		**16.7**	**1.0**	**5.0**

Definitions: A-Solvent extracted paraffinic lubes; B-Unextracted paraffinic lubes; C-Solvent extracted naphthanic lubes; D-Unextracted unhydrotreated naphthanic lubes; E-Fully refinished crude scale and microcrystalline waxes; F-Semi-finished, slack waxes and petrolatums.
Source: National Petroleum Refiners Assn., Lubricationg Oil and Wax Capacities, 1987.

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U.S. Refineries and Capacities by States

(Crude Oil Capacity on Jan. 1, 1990)

(* after number indicates capacity shut down but capable of being placed in operation within 90 days.)

Company	b/d
ALABAMA	
Belcher Refining	
Chickasaw	26,600
Hunt Oil Co.	
Tuscaloosa	33,500
LL&E Petroleum Marketing	
Saraland	80,000
Vulcan Refining Co.	
Cordova	0
Warrior Asphalt Refining Corp.	
Holt	4,000
Total	**144,100**
ALASKA	
Arco Alaska Inc.	
Anchorage	12,000
Prudhoe Bay	12,000
Chevron U.S.A. Inc.	
Kenai	22,000
Mapco Petroleum Inc.	
North Pole	90,000
Petro Star	
North Pole	7,000
Tesoro Petroleum Corp.	
Kenai	72,000
Total	**215,000**
ARKANSAS	
Berry Petroleum Co.	
Stephens	3,700
Cross Oil & Refining Co. of Arkansas	
Smackover	6,700
Lion Oil Co.	
El Dorado	41,000
Total	**51,400**
CALIFORNIA	
Arco Products Co.	
Los Angeles	214,000
Chemoil Refining Corp.	
(Formerly Macmillan Petroleum Co.)	
Long Beach	14,200
Chevron U.S.A. Inc.	
El Segundo	330,000
Richmond	270,000
Conoco Inc.	
Santa Maria	9,500
Edgington Oil Co. Inc.	
Long Beach	41,600
Exxon Co.U.S.A.	
Benicia	128,000
Fletcher Oil & Refining Co.	
Carson	29,500
Gibson Oil & Refining Co. Inc.*	
Bakersfield	0
Golden West Refining Co.	
Santa Fe Springs	42,000
Huntway Refining Co.	
Benicia	8,600
Wilmington	5,500
Kern Oil & Refining Co.	
Bakersfield	21,400
Lunday Thagard Co.	
South Gate	8,100
Mobil Oil Corp.	
Torrance	123,000
Newhall Refining Co. Inc.	
Newhall	E 13,000
Pacific Refining Co. Inc.	
Hercules	55,000
Paramount Petroleum Corp.	
Paramount	46,500
Powerine Oil Co.	
Santa Fe Springs	35,000
San Joaquin Refining Co. Inc.	
Bakersfield	14,300
Shell Oil Co.	
Carson	125,000
Martinez	140,100
Sunland Refining Corp.	
Bakersfield	12,000
Tenby Inc.	
(Fomerly Oxnard Refinery)	
Oxnard	4,000
Texaco Refining & Marketing Inc.	
Bakersfield	47,000
Wilmington	57,000
Tosco Corp.	
Martinez	126,000
Ultramar Refining	
(Formerly Union Pacific Resources Co.)	
Wilmington	65,000
Unocal Corp.	
Arroyo Grande	41,000
Rodeo	71,900
Wilmington	108,000
Witco Corp.	
Oildale	0
Total	**2,206,200**
COLORADO	
Colorado Refining Co.	
Commerce City	28,000
Conoco Inc.	
Commerce City	44,000
Western Slope Refining Co.*	
(Formerly Gary Energy Corp.)	
Fruita	0
Total	**72,000**
DELAWARE	
Star Enterprise	
(Formerly Texaco Refining & Marketing Inc.)	
Delaware City	140,000
Total	**140,000**
GEORGIA	
Amoco Oil Co.	
Savannah	0
Young Refining Corp.	
Douglasville	5,079
Total	**5,079**
HAWAII	
Chevron U.S.A. Inc.	
Honolulu	48,000
Hawaiian Independent Refinery Inc.	
Ewa Beach	78,500
Total	**126,500**
ILLINOIS	
Clark Oil & Refining Corp.	
Blue Island	64,600
Hartford	63,600
Marathon Petroleum Co.	
Robinson	160,000
Mobil Oil Corp.	
Joliet	180,000
Shell Oil Co.	
Wood River	274,000
Unocal Corp.	
Lemont	147,000
Total	**889,200**
INDIANA	
Amoco Oil Co.	
Whiting	350,000
Indiana Farm Bureau Cooperative Assn.	
Mount Vernon	21,200
Kentucky Oil & Refining Co.	
Troy	0
Laketon Refining Corp.	
Laketon	8,700
Rock Island Refining Corp.	
Indianapolis	49,000
Total	**428,900**

KANSAS

Company	b/d
Derby Refining Co.	
El Dorado	30,400
Wichita	28,800
Derby Refining Co.	
(Formerly Augusta Refining Co.)	
Augusta	0
Farmland Industries Inc.	
Coffeyville	56,500
Phillipsburg	26,400
National Cooperative Refinery Assn.	
McPherson	75,600
Texaco Refining & Marketing Inc.	
El Dorado	78,000
Total Petroleum Inc.	
Arkansas City	53,600
Total	**349,300**

KENTUCKY

Company	b/d
Ashland Oil Inc.	
Catlettsburg	213,400
Somerset Refinery Inc.	
Somerset	5,500
Total	**218,900**

LOUISIANA

Company	b/d
American International Refinery Inc.*	
(Formerly Lake Charles Refining Co.)	
Lake Charles	0
BP Oil Corp.	
(Formerly Standard Oil Co.)	
Belle Chase	213,640
Calcasieu Refining Co.	
Lake Charles	13,500
Calumet Refining Co.	
Princeton	4,207
Canal Refining Co.	
Church Point	8,000
Citgo Petroleum Corp.	
Lake Charles	305,000
Claiborne Gasoline Co.	
Lisbon	7,500
Conoco Inc.	
Egan	2,800
Westlake	156,500
Endevco Inc.	
(Formerly Kerr-McGee Refining Corp.	
Dubach	10,000
Exxon Co. U.S.A.	
Baton Rouge	455,000
Hill Petroleum Co.	
Krotz Springs	57,500
St. Rose	34,000
Kerr-McGee Refining Corp.	
Cotton Valley	7,800
Marathon Petroleum Co.	
Garyville	255,000
Mobil Oil Corp.	
(Formerly Tenneco Oil Co.)	
Chalmette	145,000
Murphy Oil U.S.A. Inc.	
Meraux	78,500
Pennzoil Products Co.	
Shreveport	46,200
Placid Refining Co.	
Port Allen	46,000
Shell Oil Co.	
Norco	215,000
Star Enterprise	
(Formerly Texaco Refining & Marketing Inc.)	
Convent	225,000
Trans America Refining Co.*	
Good Hope	0
Total	**2,286,147**

MICHIGAN

Company	b/d
Crystal Refining Co.	
Carson City	3,000
Marathon Petroleum Co.	
Detroit	68,500
Total Petroleum Inc.	
Alma	42,000
Total	**113,500**

MINNESOTA

Company	b/d
Ashland Oil Inc.	
St. Paul	67,100
Koch Refining Co.	
St. Paul	180,000
Total	**247,100**

MISSISSIPPI

Company	b/d
Amerada Hess Corp.	
Purvis	30,000
Chevron U.S.A. Inc.	
Pascagoula	295,000
Ergon Refining Inc.	
Vicksburg	20,600
Petro Source Resources Inc.	
Vicksburg	6,000
Southland Oil Co.	
Lumberton	5,800
Sandersville	11,000
Total	**368,400**

MONTANA

Company	b/d
Cenex	
Laurel	33,650
Conoco Inc.	
Billings	48,500
Exxon Co. U.S.A.	
Billings	42,000
Montana Refining Co.	
Great Falls	6,500
Total	**130,650**

NEVADA

Company	b/d
Nevada Refining Co.	
Tonopah	4,500
Total	**4,500**

NEW JERSEY

Company	b/d
Amerada Hess Corp.	
Port Reading	0
Chevron U.S.A. Inc.	
Perth Amboy	80,000
Coastal Eagle Point Oil Co.	
Westville	90,000
Exxon Co. U.S.A.	
Linden	130,000
Mobil Oil Corp.	
Paulsboro	100,000
Seaview Petroleum Inc.	
Paulsboro	0
Total	**400,000**

NEW MEXICO

Company	b/d
Bloomfield Refining Co.	
Bloomfield	16,800
Giant Refining Co.	
Gallup	18,000
Navajo Refining Co.	
Artesia	34,700
Thriftway Co.	
Bloomfield	6,100
Total	**75,600**

NEW YORK

Company	b/d
Cibro Petroleum Products Inc.	
Albany	41,850
Total	**41,850**

NORTH CAROLINA

Company	b/d
City Gas & Transmission Corp.*	
Wilmington	0
GNC Energy Corp.	
Greensboro	3,000
Total	**3,000**

NORTH DAKOTA

Company	b/d
Amoco Oil Co.	
Mandan	58,000
Total	**58,000**

OHIO

Company	b/d
Ashland Oil Inc.	
Canton	66,000
BP Oil Co.	
(Formerly Standard Oil Co.)	
Lima	167,500
Toledo	126,100
Sun Co. Inc.	
Toledo	125,000
Total	**484,600**

OKLAHOMA

Company	b/d
Barrett Refining Corp.	
Thomas	10,000
Conoco Inc.	
Ponca City	136,000
Kerr-McGee Refining Corp.	
Wynnewood	43,000
Sinclair Oil Corp.	
Tulsa	47,000
Sun Co. Inc.	
Tulsa	85,000
Total	
Ardmore	60,500
Total	**381,500**

OREGON

Company	b/d
Chevron U.S.A. Inc.	
Willbridge	0
Total	**0**

PENNSYLVANIA

Company	b/d
Atlantic Refining & Marketing Corp.	
Philadelphia	125,000
BP Oil Corp.	
Marcus Hook	172,000
Chevron U.S.A. Inc.	
Philadelphia	175,000
Pennzoil Products Co.	
Rouseville	15,700
Quaker State Oil Refining Corp.	
Smethport	6,700
Sun Co. Inc.	
Marcus Hook	170,000
United Refining Co.	
Warren	60,000
Witco Corp.	
Bradford	9,915
Total	**734,315**

TENNESSEE

Company	b/d
Mapco Petroleum Inc.	
Memphis	58,000
Total	**58,000**

TEXAS

Company	b/d
Amoco Oil Co.	
Texas City	420,000
Champlin Refining Co.	
Corpus Christi	130,000
Chevron U.S.A. Inc.	
El Paso	66,000
Port Arthur	329,000
Coastal Refining & Marketing Inc.	
Corpus Christi	90,000
Crown Central Petroleum Corp.	
Pasadena	100,000
Diamond Shamrock Refining & Marketing Co.	
Sunray	105,000
Three Rivers	51,000
Donna Refinery Partners Ltd.	
Donna	E 4,750
El Paso Refining Co. Ltd.	
El Paso	25,500
Exxon Co. U.S.A.	
Baytown	426,000
Fina Oil & Chemical Co.	
Big Springs	55,000
Port Arthur	110,000
Hill Petroleum Co.	
Houston	65,000
Hill Petroleum Co. (Formerly Texas City Refining Co.)	
Texas City	119,600
Howell Hydrocarbons Corp.	
San Antonio	1,500
Koch Refining Co.	
Corpus Christi	125,000
La Gloria Oil & Gas Co.	
Tyler	46,000
Leal Petroleum Corp.	
Nixon	15,900
Lyondell Petrochemical Co.	
Houston	285,000
Marathon Petroleum Co.	
Texas City	69,500
Mobil Oil Corp.	
Beaumont	275,000
Petrolite Corp.	
Kilgore	1,000
Phillips 66 Co.	
Borger	105,000
Sweeny	175,000
Pride Refining Inc.	
Abilene	28,500
Shell Oil Co.	
Deer Park	215,900
Odessa	28,600
South Hampton Refining Co.	
Silsbee	0
Southwestern Refining Co. Inc.	
Corpus Christi	104,000
Star Enterprise (Formerly Texaco Refining & Marketing Inc.)	
Port Arthur/Port Neches	250,000
Trifinery*	
Corpus Christi	0
Unocal Corp.	
Nederland	74,200
Valero Refining Co.	
Corpus Christi	0
Total	**3,896,950**

UTAH

Company	b/d
Amoco Oil Co.	
Salt Lake City	40,000
Big West Oil Co.	
North Salt Lake	24,000
Chevron U.S.A. Inc.	
Salt Lake City	45,000
Crysen Refining Inc.	
Woods Cross	12,500
Pennzoil Products Co.	
Roosevelt	8,000
Phillips 66 Co.	
Woods Cross	25,000
Total	**154,500**

VIRGINIA

Company	b/d
Amoco Oil Co.	
Yorktown	51,000
Primary Oil & Energy Corp.	
Chester	3,700
Total	**54,700**

WASHINGTON

Company	b/d
Arco Products Co.	
Ferndale	163,000
BP Oil Corp. (Formerly Mobil Oil Corp.)	
Ferndale	77,400
Chevron U.S.A. Inc.	
Richmond Beach	0
Shell Oil Co.	
Anacortes	84,000
Sound Refining Inc.	
Tacoma	0
Texaco Refining & Marketing Inc.	
Anacortes	97,000
U.S. Oil & Refining Co.	
Tacoma	32,000
Total	**453,400**

WEST VIRGINIA

Company	b/d
Mid Atlantic Fuels Inc.	
St. Mary's	4,658
Quaker State Oil Refining Corp.	
Newell	12,150
Total	**16,808**

WISCONSIN

Company	b/d
Murphy Oil U.S.A. Inc.	
Superior	32,000
Total	**32,000**

WYOMING

Company	b/d
Amoco Oil Co.	
Casper	40,000
Frontier Refining Co.	
Cheyenne	38,670
Little America Refining Co.	
Evansville	24,500
Sinclair Oil Corp.	
Sinclair	54,000
Wyoming Refining Co.	
Newcastle	12,555
Total	**169,725**
U.S. Total	15,011,824

PUERTO RICO

Company	b/d
Phillips Puerto Rico Core Inc.	
Guayama	0
Sun Co. Inc.	
Yabucoa	85,000
Total	**85,000**

VIRGIN ISLANDS

Company	b/d
Amerada Hess Corp.	
St. Croix	470,000
Total	**470,000**

E=Estimated.

Source: Petroleum Supply Annual, 1989, Energy Information Administration.

Changes in U.S. Refinery Capacity in 1988

On Jan. 1, 1989, the United States had a total of 204 operable refineries. There were 11 shutdowns in 1988 and two refineries were reactivated. No new refineries were activated during 1988. Operable capacity was pegged at 15.7-million b/d, down slightly from 15.9-million b/d, the year- earlier level. The increase substantiated indications that large losses of previous years have been subdued if not reversed. Closings and reactivations resulted in a net loss in operable crude capacity of 260,000 b/d.

Refinery Shutdowns in 1988

Refinery	b/cd Crude Location	b/sd Downstream Distillation Capacity	Charge Capacity	Date Shutdown
Seminole Refining Corp.	St. Marks, Fla.	17,000	11,390	3/88
Kentucky Oil & Refining	Betsy Layne, Ky.	600	0	11/88
Motor Oils Refining	McCook, Ill.	1,500	1,200	2/88
Amber Refining Inc.	Ft. Worth, Texas	19,700	17,700	12/88
GAMXX Energy Inc.	Theodore, Ala.	27,000	10,000	3/88
Liquid Energy Corp.	Bridgeport, Texas	10,000	0	10/88
OGC Corp.	Egan, La.	5,000	0	10/88
Texas NAPCO Inc.	St. James, La.	17,000	20,000	12/88
Flying J Petroleum Inc.	Cutbank, Mont.	5,600	7,700	2/88
Mountaineer Refining Co., Inc.	LaBarge, Wyo.	350	0	6/88
West Coast Oil Co.	Oildale, Calif.	5,000	0	10/88
Caribbean Gulf Refining Corp.	San Juan, PR	36,000	57,800	12/88
Guam Oil & Refining Co., Inc.	Agana, Guam	43,900	1,400	12/88

Reactivated Refineries in 1988

Refinery	b/cd Crude Location	b/sd Downstream Distillation Capacity	Charge Capacity
American International Refining Inc.	Lake Charles, La.	27,000	21,600
Western Slope Refining Co.	Fruita, Colo.	15,200	27,100

Refinery Sales in 1988

Former Owner	Location	b/cd Crude Capacity	New Owner	Date of Sale
Agway Petroleum Corp.			Solomon, Inc.	8/88
Texas City Refg. Inc.	Texas City, Texas	119,600	Hill Petroleum Co.	
Apex Oil Co.			Horsham Corp.	11/88
Clark Oil & Refg. Corp.	Blue Island, Ill.	64,600		
	Hartford, Ill.	63,600		
Aweco, Inc.			American International Refining Inc.	7/88
Lake Charles Refg. Co.	Lake Charles, La.	27,000		
Coastal Corp.			Coastal Corp. (50%)	12/88
Pacific Refining Co.	Hercules, Calif.	55,000	Sinochem (50%)	
Coral Petroleum Co.			United Refg. Inc.	9/88
United Refg. Co.	Warren, Pa.	60,000		
Edgington Oil Co. Inc.	Long Beach, Calif.	41,600	Sulfur Mountain Corp.	6/88
Fletcher Oil & Refg. Co.	Carson, Calif.	29,500	Pauley Petroleum Inc.	3/88
Guam Oil & Refg. Co., Inc.	Agana, Guam	43,900	Shell Oil Corp.	11/88
Kerr-McGee	Dubach, La.	10,000	Endevco, Inc.	11/88
Macmillan Petroleum Co.	Signall Hill, Calif.	14,200	Chemoil Corp./Chemoil Refg. Corp.	8/88
Mobil Oil Corp.	Ferndale, Wash.	77,400	BP America Inc.	12/88
Paramount Petroleum Corp.	Paramount, Calif.	46,500	Paramount Acquisition Corp.	12/88
Tenneco Oil Co.	Chalmette, La.	145,000	Mobil Oil Corp.	12/88
Texaco, Inc.			Star Enterprise:	11/88
Texaco Refg. & Mktg.	Delaware City, Del.	140,000	Saudi Refg. Inc. (50%)	
	Port Arthur, Texas	250,000	Texaco, Inc. (50%)	
	Convent, La.	225,000		
Union Pacific Resources Co.	Wilmington, Calif.	65,000	Ultramar Refg.	12/88
Union Pacific Corp. (50%)			Petroleos De Venezuela (100%)	12/88
Petroleos De Venezuela (50%)	Corpus Christi, Texas			
Champlin Petroleum Co.		130,000		
Williams Companies			Coastal Corp.	7/88
Augusta Refg. Co.	Augusta, Kan.	0	Derby Refg. Co.	
Young Refg. Corp.			Asphalt Materials	2/88
Laketon Refg. Corp.	Laketon, Ind.	8,700		

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b/cd=bbl. per calendar day; b/sd=bbl. per stream day

Source: Energy Information Administration, Petroleum Supply Annual 1988, published in May 1989.

Shell and Working Storage Capacities—1988

Shell Capacity (Add 000 bbl.) (a)

		Gasoline			Fuel Oil				
	Crude Oil	Finished Leaded	Finished Unleaded	Blending Components	Middle Distillates	Residual Fuel Oil	Asphalt and Road Oil	Total Products(b)	Total Crude Oil and Products
PAD District 1 Total	**27,135**	**3,166**	**15,295**	**11,304**	**25,708**	**13,860**	**5,278**	**105,041**	**132,176**
New Jersey	9,420	1,504	8,268	5,259	12,891	7,284	2,082	51,382	60,802
Pennsylvania	11,291	960	3,429	3,580	4,239	2,414	1,259	27,911	39,202
Other States(c)	6,424	702	3,598	2,465	8,578	4,162	1,937	25,748	32,172
PAD District 2 Total	**27,903**	**10,062**	**19,050**	**18,160**	**25,602**	**6,309**	**12,155**	**149,508**	**177,411**
Illinois	7,863	2,723	4,855	5,367	6,915	1,820	2,060	40,690	48,553
Indiana	2,943	691	2,617	2,924	3,409	1,459	1,636	21,504	24,447
Kansas	3,102	2,189	2,963	1,722	3,259	593	1,040	20,243	23,345
Ohio	3,789	518	2,106	2,891	1,855	423	903	14,612	18,401
Oklahoma	4,043	1,892	2,466	2,392	3,605	344	1,642	22,208	26,251
Other States(c)	6,163	2,049	4,043	2,864	6,559	1,670	4,874	30,251	36,414
PAD District 3 Total	**98,335**	**9,399**	**34,444**	**36,568**	**45,992**	**21,096**	**7,461**	**329,266**	**427,601**
Alabama	2,291	256	482	518	1,050	791	694	4,929	7,220
Arkansas	1,688	116	166	148	704	97	711	2,142	3,830
Louisiana	29,987	1,795	7,825	11,445	16,031	7,063	1,749	90,931	120,918
Mississippi	5,873	493	2,560	2,015	3,112	666	1,118	17,428	23,301
New Mexico	962	238	238	720	629	419	425	4,376	5,338
Texas	57,534	6,501	23,173	21,722	24,466	12,060	2,764	209,460	266,994
PAD District 4 Total	**4,645**	**2,245**	**2,501**	**5,016**	**4,699**	**1,552**	**4,461**	**26,676**	**31,321**
Colorado	788	353	401	619	612	237	593	3,947	4,735
Montana	1,286	788	561	1,700	1,300	255	1,909	8,542	9,828
Utah	1,462	408	719	1,150	1,123	216	456	5,871	7,333
Wyoming	1,109	696	820	1,547	1,664	844	1,503	8,316	9,425
PAD District 5 Total	**46,190**	**4,459**	**12,240**	**18,027**	**12,766**	**14,236**	**4,201**	**121,434**	**167,624**
Alaska	1,103	86	255	291	847	1,173	92	3,713	4,816
California	32,632	3,155	10,120	14,949	8,984	10,189	3,159	96,734	129,366
Washington	8,318	1,163	1,697	2,096	2,342	1,436	351	15,984	24,302
Other States(c)	4,137	55	168	691	593	1,438	599	5,003	9,140
U.S. Total	**204,208**	**29,331**	**83,530**	**89,075**	**114,767**	**57,053**	**33,556**	**731,925**	**936,133(d)**

Working Storage Capacity (Add 000 bbl.) (a)

		Gasoline			Fuel Oil				
	Crude Oil	Finished Leaded	Finished Unleaded	Blending Components	Middle Distillates	Residual Fuel Oil	Asphalt and Road Oil	Total Products(b)	Total Crude Oil and Products
PAD District 1 Total	**23,508**	**2,874**	**13,839**	**9,819**	**23,748**	**12,845**	**4,752**	**94,769**	**118,277**
New Jersey	8,119	1,380	7,513	4,463	11,871	6,682	1,824	46,350	54,469
Pennsylvania	9,907	842	2,988	3,122	3,784	2,165	1,096	25,004	34,911
Other States(c)	5,482	652	3,338	2,234	8,093	3,998	1,832	23,415	28,897
PAD District 2 Total	**24,740**	**9,001**	**16,726**	**15,968**	**23,654**	**5,776**	**11,194**	**134,755**	**159,495**
Illinois	6,854	2,300	4,144	4,650	6,392	1,693	1,932	35,921	42,775
Indiana	2,536	632	2,279	2,479	3,033	1,336	1,423	19,122	21,658
Kansas	2,849	2,074	2,665	1,563	3,069	540	952	18,818	21,667
Ohio	3,377	435	1,761	2,407	1,678	325	840	12,786	16,163
Oklahoma	3,503	1,670	2,223	2,255	3,291	312	1,476	20,040	23,543
Other States(c)	5,621	1,890	3,654	2,614	6,191	1,570	4,571	28,068	33,689
PAD District 3 Total	**82,708**	**8,243**	**29,939**	**31,460**	**40,860**	**18,602**	**6,462**	**288,434**	**371,142**
Alabama	1,901	221	405	478	907	666	567	4,184	6,085
Arkansas	1,525	104	149	138	652	86	644	1,954	3,479
Louisiana	24,060	1,516	6,458	9,243	13,864	6,254	1,485	77,875	101,935
Mississippi	5,203	447	2,392	1,912	2,897	613	963	16,083	21,286
New Mexico	847	200	192	660	532	350	419	3,839	4,686
Texas	49,172	5,755	20,343	19,029	22,008	10,633	2,384	184,499	233,671
PAD District 4 Total	**4,228**	**2,024**	**2,246**	**4,539**	**4,409**	**1,469**	**4,232**	**24,583**	**28,811**
Colorado	731	324	366	566	583	217	576	3,646	4,377
Montana	1,104	700	494	1,508	1,201	233	1,743	7,769	8,873
Utah	1,330	356	612	1,022	1,047	200	447	5,297	6,627
Wyoming	1,063	644	774	1,443	1,578	819	1,466	7,871	8,934
PAD District 5 Total	**39,177**	**3,710**	**10,562**	**15,492**	**11,501**	**12,920**	**3,826**	**106,741**	**145,918**
Alaska	1,037	82	241	277	809	1,124	89	3,544	4,581
California	27,004	2,524	8,647	12,735	7,993	9,109	2,828	84,230	111,234
Washington	7,330	1,054	1,519	1,832	2,143	1,318	339	14,252	21,582
Other States(c)	3,806	50	155	648	556	1,369	570	4,715	8,521
U.S. Total	**174,361**	**25,852**	**73,312**	**77,278**	**104,172**	**51,612**	**30,466**	**649,282**	**823,643(d)**

(a) Shell capacity is the design capacity of a tank; working capacity is the difference between the maximum safe fill capacity and tank bottoms; (b) Total products include ethane, isobutane, pentanes plus other hydrocarbons, hydrogen, alcohol, unfinished oils, finished aviation gasoline, special naphthas, coke, wax, still gas, petrochemical feedstocks, and miscellaneous products; (c) Other states include: PAD 1—Connecticut, Delaware, Florida, Georgia, Maryland, New York, North Carolina, Virginia and West Virginia; PAD 2—Minnesota, Missouri, North Dakota, Tennessee and Wisconsin; PAD 5—Hawaii, Nevada and Oregon; (d) Includes 24.3-million bbl. at shutdown refineries and 40.5-million bbl. at gasoline blending plants.

Source: Energy Information Administration, Petroleum Supply Annual 1988, published in May 1989.

U.S. REFINING CAPACITY 1979-1989

(in thousands of b/d)

/—OPERABLE REFINERIES—\

(As of Jan. 1 of each year)

Year	No. of Refs.	Chng. from Prec. Year	Operable Capacity	Chng. from Prec. Year
1989	204	−9	15,655	−251
1988	213	−6	15,916	+350
1987	219	+3	15,566	+107
1986	216	−7	15,459	−200
1985	223	−24	15,659	−478
1984	247	−11	16,137	−722
1983	258	−43	16,859	−1,030
1982	301	−23	17,890	−731
1981	324	+5	18,621	+632
1980	319	+8	17,989	+547
1979	311	+9	17,441	+393

Source: Energy Information Administration, Petroleum Supply Annual 1988, plus industry sources for supplemental data.

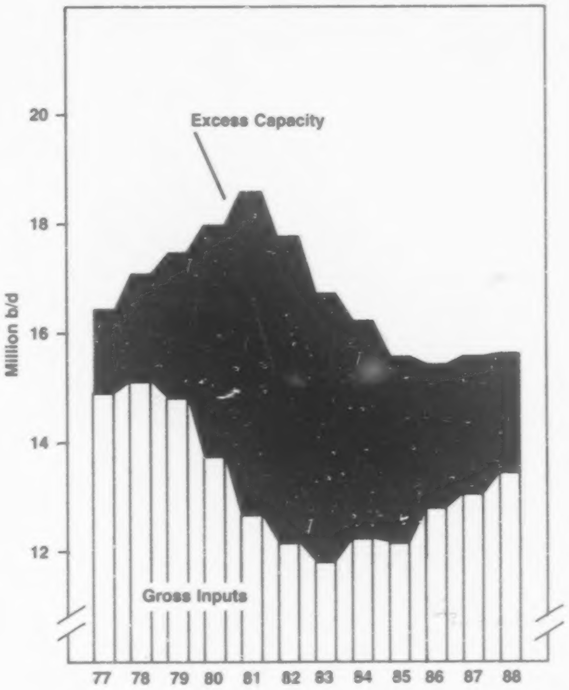
/—INPUTS AND UTILIZATION—\

(Avg. for calendar year)

Year	Gross Input	Percent Utilized	Percent Idle	Excess Volume
1989	13,563	86.5%	13.5%	2,092
1988	13,447	84.4	15.6	2,459
1987	13,003	83.1	16.9	2,690
1986	12,826	83.0	17.0	2,633
1985	12,165	77.6	22.6	3,494
1984	12,216	76.2	23.8	3,921
1983	11,947	71.7	28.3	4,912
1982	12,172	69.8	30.2	5,718
1981	12,751	68.5	31.5	5,870
1980	13,834	76.9	23.1	4,153
1979	14,955	85.7	14.3	2,486

Source: See above footnote.

Gross Inputs and Excess Capacity



Source: For 1975 through 1986, Energy Information Administration, Annual Energy Review, 1986. For 1987-88, Petroleum Supply Annual, 1988.

Refinery Capacity Down, Inputs Up

Domestic refining capacity was down slightly in 1988, according to the Energy Information Administration's 1988 Petroleum Supply Annual. However, pushing against this reduced capacity were upticks in refinery gross inputs and capacity utilization, both reaching new heights since 1980 and 1979 respectively.

Through Jan. 1, 1989 refining capacity dropped 1.6% to from the Jan. 1, 1988 level to 15.7-million b/d. There were two reasons for this, EIA reports. First, 11 refineries were shut down in 1988 while only two were reactivated. This net loss of nine refineries—the U.S. total declined to 204 operating plants as shown in the table above—led to a reduction of operable capacity of about 67,000 b/d. The 11 closed refineries, mostly smaller units, had a total capacity of 109,000 b/d while the two reactivated units put 42,000 b/d of capacity back into the pool.

In addition, EIA says, several operating refineries either downgraded their crude distillation capacity or permanently shut down capacity that had been listed as idle for the past few years, resulting in a further decrease of about 194,000 b/d. Chevron, for example, reduced its total operable capacity by 242,000 b/d in a major streamlining effort, which in itself would account for most of the total capacity decline.

With total petroleum product on the rise, refinery utilization rates have also been ratcheting up a couple of percentage points or so each year since the early 1980s. From a low 68.5% utilization rate in 1981, U.S. refineries reached a level of 86.5% utilization in 1989. This, of course, served to narrow the gap between capacity and utilization, reducing the burdensome excess volume of 5.9-million b/d in 1981 to only 2.1-million b/d by 1989.

Refinery yields as reported by EIA were fairly steady in 1988. Gasoline yields were down slightly—from 46.4% in 1987 to 46.0% in 1988. However, EIA reports refiners input 390,000 b/d more crude and unfinished oils in 1988 to produce roughly the same yield of gasoline. This was partly due to the increased production of premium unleaded gasoline, since raising the octane level results in greater processing losses.

The annual yield of distillate fuel oil has remained fairly steady since 1978, EIA points out. The 1988 yield of 20.8% was a little higher than 1987's 20.5%. Yields of residual fuel oils (6.7% in 1988) are edging up again after declining from 11.7% in 1980 to 6.6% in 1987. Refinery yields of jet fuel increased from 7.4% in 1980 to 10% in 1987 and 1988.

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July 1990

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Dual Brands Helps Jobber Succeed
POS Transactions Made Faster And Cheaper
San Francisco Freezes Station Closings

NPN

National Petroleum News

Citgo's Future...

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Editor's Viewpoint

One of the most troublesome decisions a new editor has to make is to determine the subject of that first editorial. I vacillated for quite awhile about whether I should simply introduce myself or target an industry issue for comment. After much deliberation I concluded that my face is pretty familiar to petroleum marketers and oil company execs with whom I have had the pleasure of spending time since I joined the *National Petroleum News* staff two and a half years ago.

Therefore, instead of telling you about myself, I decided to focus on you, the reader, and seek your participation and involvement in continuing to make the Editor's Viewpoint a meaningful monthly exercise.

During the past couple of years I have tried to understand the issues you are struggling with—from underground storage tank regulations, to Stage II, to operating a successful C-store, and so on. Although my role as managing editor was helpful, at the same time it limited my getting out of the office as often as I would have liked, or even making a few random calls just to say hello and ask what's new.

However, now that I am editor, I hope to meet even more of you and gain a better understanding of what your concerns are. The best way to accomplish this goal is to ask you to send in letters about the topics you want to read and learn more about. More specifically, are you interested in reading more about alternative motor fuels, C-store trends, jobber cases or whatever? I know that finding the time to dictate a letter can be a nuisance, so all I ask is that you jot down an idea or two or three, or whatever, even on a napkin if you like, and send it to me. Or, if you prefer, give me a call and we can discuss these topic ideas over the telephone.

You are the reason *NPN* has been around for more than 80 years and we have tried to follow, report and interpret those events that have affected your business. And as editor I hope to continue to meet the expectations you have for the magazine. No doubt, following in the footsteps of Marvin Reid and Frank Victoria will not be an easy task, but with a little help from you and a very talented staff I think it's a goal we can achieve.

Hope to hear from you soon.

—Peggy Smedley

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The "bad times are behind us" says Citgo CEO Ron Hall (above left, with Jerry Thompson, vice president, refining). Hall is looking for a 15%-20% increase in volumes, stations, C-stores and sales by 1995.
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NO BILLS LARGER THAN $20 ACCEPTED

Demand for faster, cheaper electronic transactions has sparked a frenzy of point-of-sale (POS) research and development. New ideas include POS devices installed in the pump and funds transferred through satellite beams.
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Diamond Shamrock
.93⁹
REGULAR
.94⁹
UNLEADED

Albuquerque jobber Jim Shepherd handles both Chevron and Diamond Shamrock branded fuels to hold his own in the fiercely competitive New Mexico market.
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• TRENDS

Goal for the '90s: Heading Off Image Problems

Among the many hot potatoes that gasoline marketers are going to have to handle in the early '90s—not counting reformulated fuels and new approaches to engine power—are those involving brand images, integrity, product quality and public acceptance of supplier claims.

Unattended self service, for example, is now in its infancy. As it picks up steam in the decade that's underway, it's going to open many doors of opportunity for legitimate marketers and, at the same time, make it easier for unscrupulous marketers to cheat consumers and give the industry one black eye after another.

The federal government's General Accounting Office only recently alleged that 9%—give or take—of the gasoline sales in the nation's big cities are fraudulent: i.e., that motorists were being clipped right and left as to gasoline quality and octane numbers.

Nine percent is a sizable number of gallons. Assuming 1989's retail sales were around 115-billion gal., this means that 10-billion gal. were octane deficient or mislabelled as to grade. That means that tens of thousands of motorists may have been defrauded of tens of millions of dollars in their purchases, a few pennies at a time.

Consider the case of a metropolitan New York gasoline retailer. The city's commissioner of Consumer Affairs had a field day in May when he personally—much to the delight of the TV crews who had been tipped off well in advance—padlocked a station in Brooklyn.

This retailer, described by the commissioner as "one of the worst octane cheaters" in the city, was nailed for selling gasoline 1.2-octane numbers under the 93 posted on the pump face. Earlier tests, said the commissioner, indicated the same station had been caught selling regular (87-octane) as premium (93-octane).

The commissioner added that the retailer had been cited 10 times in one year for octane cheating and was fined $22,900 for 26 violations at five outlets. Two weeks after the commissioner announced that he would fine the retailer a record-breaking $30,000, the man showed up with a shopping bag full of bills, mostly $20s, and paid it. Presumably, the retailer will be back in business before long; maybe even by the time this article appears in print. It's truly a sad commentary that situations like this can be repeated over and over again.

Perhaps oil marketers could take a cue from the health warnings that the U.S. Surgeon General has forced tobacco companies to imprint on every package of smokes. What an impact it would have if signs like this could be mandated for at least 90 days at a time at every station that's caught cheating:

> WARNING
>
> The Attorney General has reason to believe that the operator of this station has been known to sell gasolines whose octane values fail to match the octane numbers posted on the pump face. Motorists are cautioned that they may be defrauded in their purchases unless they are alert and careful.

It might take an Act of Congress or an Act of God, as old Will Rogers used to say, to work out the details and make them stick. Don't comment that such a tactic is harebrained or can't be done. The tobacco industry and its self-incriminating health warnings can attest otherwise. So do the mea culpas that the federal government has forced some manufacturers to insert in their advertisements and promotional materials.

Suppliers and marketers are very knowledgeable people. They know which markets are being heisted and by whom. The big boys can no longer afford to walk away and shrug them off and say it's not my brand or even my problem. What the industry needs now is some strong aggressive action to squelch potentially messy situations before they can become scurrilous and nasty. Cooperative action with city and state authorities, the Dept. of Justice, whoever or whatever, the likes of which it has never seen before. This isn't a trend that's already underway, by any means. How nice it would be if it could become one.

—J. Richard Shaner

• MARKETPLACE AT A GLANCE

AVERAGE GASOLINE PRICES IN THE U.S. (per gal.)

April	Gasoline (All types)	Leaded Regular	Unleaded Regular	Unleaded Premium
U.S. City Avg.	$1.096	$1.027	$1.044	$1.233
Regions				
Northeast	1.100	1.065	1.019	1.235
North Central	1.117	1.069	1.072	1.275
South	1.091	1.041	1.029	1.206
West	1.078	1.008	1.051	1.245

Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

STOCKS (Add 000 bbl.)

	6/1/90	6/2/89
Gasoline (Total)	216,545	221,024
Gasoline (Unleaded)*	165,661	155,078
Jet Kerosine	42,153	39,242
Distillates	104,010	99,315
Residual	45,946	39,416

**Included in gasoline total.*

Source: American Petroleum Institute.

How Space Age Technology Makes POS Transactions Faster And Less Expensive

The major oil companies' demand for faster, cheaper electronic transactions has ignited a new frenzy of point-of-sale (POS) research and development, leading to such ideas as installing POS devices right into the pump and transferring funds through high-tech satellite beams.

The talk may sound futuristic, but what the majors need is both clear and immediate: the ability to quickly and conveniently authorize credit, accommodate the growing number of commercial fleet clients and debit a customer's bank account—all at a reasonable price.

"Our number one focus is customer satisfaction. If you can reduce checkout time from 15-20 seconds to two seconds, customers appreciate that," says a Diamond Shamrock executive.

Presently, the fastest transaction times come from what are known as "dedicated" or "leased" line hook-ups, in which a private phone line is linked to the retail station and is continuously on. That can get expensive, however, especially since AT&T's breakup in 1983 doubled leased line costs, observers say.

Actual per transaction costs are hard to pinpoint since they vary with each station's transaction volume, but sources say the costs of dedicated lines have risen 300%.

As a result, many companies sacrificed dedicated lines for slower "dial-up" lines. In many dial-up situations, information is stored or "batched" at the station, until enough is collected to dial the system and send a bunch of information at once.

With batching, however, a major would lose the ability to instantly authorize a credit or debit purchase. If a bad sale was made, the customer would be long gone before it was discovered.

The only other option would be dialing up and authorizing each plastic transaction as they occur. The oil company gets authorization, but at the expense of a customer waiting—about 20 seconds—for the sale to go through.

By Angel Abcede
Contributing Correspondent

Despite all the current dilemmas, answers are not far away. If today's demands are any indication, stations of the '90s will have POS devices in the pumps (for customers to bypass lines at the cashier altogether), integrated computer systems connecting everything from hoses to tank monitors, scanners to more efficiently inventory convenience store goods and electronic connections to radio waves or even satellite beams to process credit and debit at a blink of an eye—and for the price of what dial-ups cost today.

In a few cases, the service station of the '90s is already here. In-pump POS devices are already in approximately 200 Shell locations, with companies like Mobil moving out of successful test phases with similar devices. Other companies, like Diamond Shamrock, are researching the possibility of scanners as they plan future expansions of their in-store computer systems. And Citgo Petroleum has conducted tests with multilevel phone transmissions, sending transaction data on the same phone lines that people are speaking on.

The face of POS is changing rapidly in many areas, not just with equipment and telecommunications, but in credit, debit and most notably, fleet cards:

- The majors are advancing quickly into commercial fleet fueling. Once left to jobbers and budding cardlock and financial service networks, fleet fueling has become, as one observer put it, a proven marketing strategy. Majors like Shell, Arco, Amoco, Mobil, Chevron, Phillips and Diamond Shamrock already have fleet cards, but Chevron and Mobil have stepped further into the field by signing up their own cardlocks.
- The changing role of credit. As some companies drop tier pricing for credit cards, the role of the proprietary card is being altered. Other developments—the introduction of a new universal gasoline card, good at any branded station—are further chipping away at the credit card as a way to foster brand loyalty.
- The stagnancy of debit. The acceptance of debit appears to have ground to a halt, stopping at the so-called debit "hotspots" of California, Arizona, Texas and Florida. Circle K, for instance, despite its severe financial difficulties has waned in its attempts to market debit, saying that little sup-

Public Cable
H
EXIT

Oil companies are beginning to see the potential of fleet accounts—60-billion gal./yr. of fuel consumed by non-passenger vehicles, according to Wright Express, a fleet services company.

Oil Company Retail Outlets	Total Branded Locations	No. of POS Locations	No. of Prop. Credit Cards	No. of Debit Locations	Fleet Services	Cardlocks	Updating POS
American Petrofina, Inc.	458	2,700	400,000	None	Yes	No	No
Amoco Corp.	10,246	3,000+	16 million	None	Yes	No	Yes
Atlantic Richfield Products Co.	1,673	1,200	None	1,200	Yes	No	Yes
Chevron Corp.	11,969	2,700	6 million	60	Yes	Yes	Yes
Circle K Corp.	847	2,600	N/A	1,400	Yes	No	N/A
Diamond Shamrock	2,000	2,000	N/A	2,000	Yes	No	Yes
Mobil Oil Corp.	11,074	5,300	14 million	5,300	Yes	Yes	Yes
Phillips 66 Co.	9,757	2,300	5 million	*	Yes	No	Yes
Shell Oil Co.	10,847	481**	15 million	None	Yes	No	Yes
Star Enterprise	N/A	N/A	***	None	Yes	No	Yes
Texaco Inc.	15,389****	N/A	12 million	None	Yes	No	Yes

* Some locations in Oklahoma.

** Shell says all its company-operated stores (431 by *1989 Factbook* figures) are on POS, but would not release the number of dealers participating in POS.

*** Accepts Texaco credit card.

**** Includes Star Enterprise locations.

port from the banks dampened its initial enthusiasm.

Satellite transfers

In the past, the idea of debit took the spotlight. Electronically linking a service station with a customer's bank account to debit a purchase without cash was a futuristic thought.

Now imagine that transaction happening without phone lines.

Vertical Blanking Intervals (VBI) is a technology already being developed by the telecommunications industry. Using local television stations, information such as a credit card authorization is sent through satellites to either the oil company credit center or the local bank computer. The information is processed at the host and an "all clear" message is sent back to the station by that same satellite connection.

The technology could bring the speed of a dedicated line for the price of a dial-up, says Don Sieb, director of marketing North America division for Verifone, an electronic transaction and automation company based in Redwood City, Calif.

Similar technology is being developed using radio waves, Sieb says.

Verifone recently announced a test involving Citgo and several other network and telecommunications companies to bring transaction time down to eight seconds for the same price of a dial-up network.

Called "Fastconnect," the system can combine voice and digital data transmissions, sending credit or debit information over the same line that other people are talking on. The technology quickens the speed of a dial-up line, and in the case of Citgo, brought the transaction time down to eight seconds from call to printed receipt.

The six-station trial began last December and concluded last spring.

POS evolution

With every major oil company having a working POS system in place, advanced automation is the next logical step, according to both oil company execs and manufacturers.

The hunger for more advanced POS technology wasn't always the case, as many POS makers can attest. "The early part of the '80s through 1985 was a stable period for equipment," says Rollie White, manager of Wayne products support for Dresser, Wayne Division. He says demand for the standard product was steady and few changes were made.

POS had just been brewing in the minds of the majors, with Mobil Oil being the first to act.

Johnathan Briggs, a POS executive with Mobil at the time, says all the oil companies were interested in was capturing enough data to zip off to the host computer and electronically process the transaction.

Primary motivations were eliminating bad debt, reducing float time and getting rid of all the paper involved in check transactions, says Briggs, who is now with Verifone.

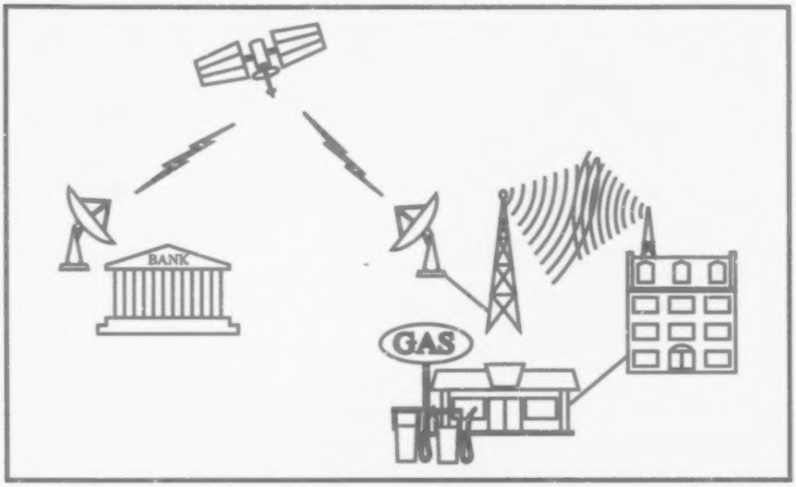
Evolution in POS, according to Briggs, was and still is driven by the cost of communications. With the breakup of AT&T, communication costs in many instances more than doubled, Briggs says. With oil companies having millions of circulating proprietary cards, high-volume stations could be processing as many as 200 transactions a day. Costs drove many companies to cost-saving solutions.

One of these solutions was batching, which drove a need to increase the memory of the in-store computer. A service station computer now had to store much more than was originally intended.

On top of it all, costs at that time for the technology were high. Briggs says a computer with a 64K memory would cost $1,500 then, and a similar unit today, with 512K, costs $1,000.

The majors' move to C-stores during the '80s also placed more demand on the in-store computer. "At this point, it's inevitable that food retailing requires computer power," says Dwight Romanica, president of Canmax Retail Systems, Inc. out of Toronto. "Everyone wants a PC in the store controlling everything: tank monitors, locks on bathroom doors, even revenue from the payphone."

Executives from Diamond Shamrock say there is value in electronic inventory and are



Satellite hookups may make POS transactions cheaper and faster. Today's technology can already send a credit verification from the gasoline station to a transmission point (where information is turned into television waves) and sent via satellite to a bank's file for authorization, and then back again.

considering installing so-called "scanning" devices at their locations.

High-end technology has advanced through the latter part of the decade, Briggs says, with card readers fitted into the pumps (like the Gilbarco devices involved in Shell's program) and integrated microcomputers that keep tabs on every phase of a station's operation.

Software to tie together every aspect of the gasoline and C-store outlet is on the market in different forms. Romanica says the difficulty software companies face is dealing with pump and other equipment manufacturers who also want to get into the game. His company has run into problems getting information from manufacturers in order to come up with software, he says.

In addition to software developments, Briggs says terminal display technology has improved, with screens becoming easier to read and more user-friendly.

Recent POS developments come at a time when many oil companies are upgrading their systems. Of the 10 companies that responded to a recent *NPN* survey, eight are currently updating their equipment for the future.

Generally, Briggs sees developments in automation continuing. "I don't think anything remains static," Briggs says. "If history is a teacher, we'll be seeing better equipment at a fraction of the cost."

Fleets, cardlocks

An offshoot to this "beefing up" of POS systems by the majors is a move into the field of fleet cards. Some oil companies, like Shell and Amoco, have been offering cards for a couple of years now, but recently a few of the majors have begun standalone cardlock operations.

Chevron has announced the first phase of its cardlock plan, offering it to jobbers in nine Western states. The decision to roll out the program east of the Rockies has been put off until next year, says David Reeves, manager of jobber services for Chevron.

In this first phase, Chevron will have only clearing house functions, with new cardlocks being constructed by jobbers, Reeves says. Chevron hopes to have between 400-500 cardlock sites over the next five years, he says. It is targeting diesel fuel for its cardlock locations, focusing on industrial-type commercial accounts, he says.

Reeves described Chevron's move into cardlocks as less of an aggressive claim on a growing market, but more of a "defensive position." As the Environmental Protection Agency regulations force more commercial businesses to remove their in-house tanks, Chevron loses business on the wholesale level. "We could have been supplying those commercial fleets with wholesale product already," he says. So rather than lose business, Chevron says it is attempting to pick it back up through cardlocks.

Mobil, the second major oil company to announce a cardlock program, declined to comment on it since it was so new. But Mobil did provide a spokesperson for its fleet program, which is pretty standard for the majors.

Marti Miller, Mobil fleet manager, says the program provides a choice of a "standard" and an "enhanced" report for the commercial fleet customer.

The standard report is free and groups client purchases by car number, giving subtotals, times and dates of purchases.

The enhanced report gets into odometer readings, types of fuel, quantities of oil, snack foods purchased and other sale information.

Mobil's strategy is similar to the other majors in form and execution, with the final goal being the capture of some of the 60-billion gal. of motor fuel consumed in the United States annually by non-passenger cars.

Many oil companies see growth in fleet business. "(Fleets) are a great area to focus on," says Andy Roberts, manager of acquisition and administration for Diamond Shamrock. "Growth will be there for a while, but it's paramount to be positioned well."

Fleet networks respond

With the majors inching further into the game, fleet networks like Gascard, Wright Express and Pacific Pride, who pioneered their networks in the early '80s, are watching formidable opponents enter the market.

"The majors have now seen fleets as a proven marketing strategy," says Mike Dubyak, vice president of marketing and sales for Wright Express.

Fleet and the related phenomenon of unattended fueling can be compared to the growth of self service, says Jim Utasi, vice president of marketing for Autogas Systems Inc. of Abilene, Texas, an equipment and network services company. "Where self service was 5% in 1971, it's 90% today," he says.

The entry of companies like Chevron and Mobil into cardlocks "validates" that there is a business out there, says Lindsay Holland of Gascard.

But while these original fleet networks see the entry of the majors as a competitive threat, they don't believe the majors provide the same level of services they do.

"We can market rings around the majors," says Holland. "We can call on the customer, adjust product need. The big guys just aren't into that kind of marketing and product service."

Holland says the majors' interests are more on the upstream level, and that fleet fueling is just a small part of what they do downstream. "When you talk about the majors downstream, you're talking about the tail, the dog is way upstream," Holland says.

Miller of Mobil disagrees. "(Mobil) did not get into fleet fueling if we didn't intend to do it right."

Mobil has developed a completely different billing statement, made modifications to its business recording methods and upgraded station terminals all specifically to handle the new service, Miller says.

Despite the difference of opinion, Holland believes that with the billions of commercial gallons out there, he sees room for many competitors. "If you take Gascard's 120-

NO BILLS LARGER

Cutting transaction time from 20 seconds to two seconds for a reasonable price is the majors' current point-of-sale goal.

million gals./yr. and multiply that by say 10 players, you've only got 1.2-billion." With at least one estimate of consumption of non-passenger cars at 60-billion, there's "a tremendous potential" in fleet fueling.

Role of plastic

As fleet cards become even more prominent in oil company marketing strategies, the dynamics of plastic transactions become apparent.

Even in the areas of credit and debit, developments have been slowly changing the POS picture.

For debit, more advertisement on the part of supermarkets has helped increase customer awareness of the payment option, according to Anita Best, electronic services manager for Circle K. But in general, debit is stagnant, she says.

Transaction volumes, she says, have leveled off in Arizona and have been disappointing in Florida.

Certainly, Circle K isn't the only chain accepting debit, with big majors like Exxon, Mobil and Arco taking bank cards, but Circle K had quite a big program going in the South and Southwest.

Today, 1,400 Circle K locations accept debit with a total of 2,600 automated stations, Best says.

"We haven't promoted debit in two years," Best says. "It gets frustrating being the only one out there promoting it. We haven't seen the banks promoting it either."

She says a lack of public awareness still hampers debit, and while Circle K has seen users of automatic teller machines (ATMs) participating in debit, the company has seen no new customers.

Even though debit appears to have leveled off, the role of the credit card appears to be changing.

The prominence of the proprietary credit card still remains with companies like Mobil and Shell having 14-million and 15-million, respectively, in circulation.

But as companies like Phillips eliminate cash discounts and institute policies charging the same price for cash and credit, the perception of credit changes.

Still, an Amoco spokesperson says, "Discount for cash still plays an important role in meeting customer preference. It's been very successful for us and there are no plans to change it at this time. Our customers see the value of the credit card and it's worth it to them."

Time will tell, however, if customers view the cash price as a discount or simply as a higher fee for credit—a fee they don't have to pay with a competing credit card.

Developments today are shaking the very core of what credit cards are thought to do: instill brand loyalty.

The recent introduction of a "universal" gasoline credit card by Petrocredit Corp., in Reston, Va., has brought up the question of brand loyalty and the credit card's pull on a customer.

Kenneth Poole of Petrocredit says location is the number one factor in people's decisions on where to fill up, and that the average credit card user has two or three major proprietary cards.

Citing in-house and industry studies, Poole says, "To customers, all major oil companies were the same, and they would fill up with any brand that was on their route between home and business."

He adds that a person may get the credit card of his or her primary filling station and use other credit cards for fill ups at other stations when traveling outside normal routes.

A universal credit card, issued through MasterCard and Visa banks, would allow customers to consolidate their gasoline cards into one card. Poole says people don't readily use their MasterCard and Visa cards for gasoline because they save those cards for big ticket purchases, but since most service stations take the cards, the universal gasoline card can be accepted just about anywhere and used much like a proprietary credit card.

While oil companies refused to participate for fear of supporting a card that would encourage its customers to fuel at a competing location, Poole says that's not the case. He says customers will still fill up at their primary, en-route-to-work locations. They may stray in the secondary purchases, Poole says. For instance, while making a special trip to an aunt's house, a customer may choose a Shell station over looking for a Mobil location due to convenience. But if all oil companies are participating, the trade of business will even out, and Mobil may get a mostly-Shell customer who finds a Mobil location more convenient at the time.

The Amoco spokesperson speaks staunchly for the proprietary card's ability to instill brand loyalty, but says the viewpoint of the universal card is also right.

"No one customer is the same," he says. "There's an important segment out there where brand loyalty is a primary motivation, and there is a category of customer whose loyalty is spread."

As the debate over the role of credit continues, one thing is certain: change is inevitable. From advances in hardware and software to consumer buying habits, from corporate philosophy to marketing strategies, POS is an ever-changing arena. As one Texaco spokesperson put it, "The bottom line is you've always got to keep current on POS." NPN

CASH OR
CREDIT
CARD
SAME LOW
PRICE
WE HONOR THESE
CREDIT CARDS
MasterCard
VISA
RIGHT

Major oil's changing view of the proprietary credit card has resulted in new "same price for cash or credit" policies.

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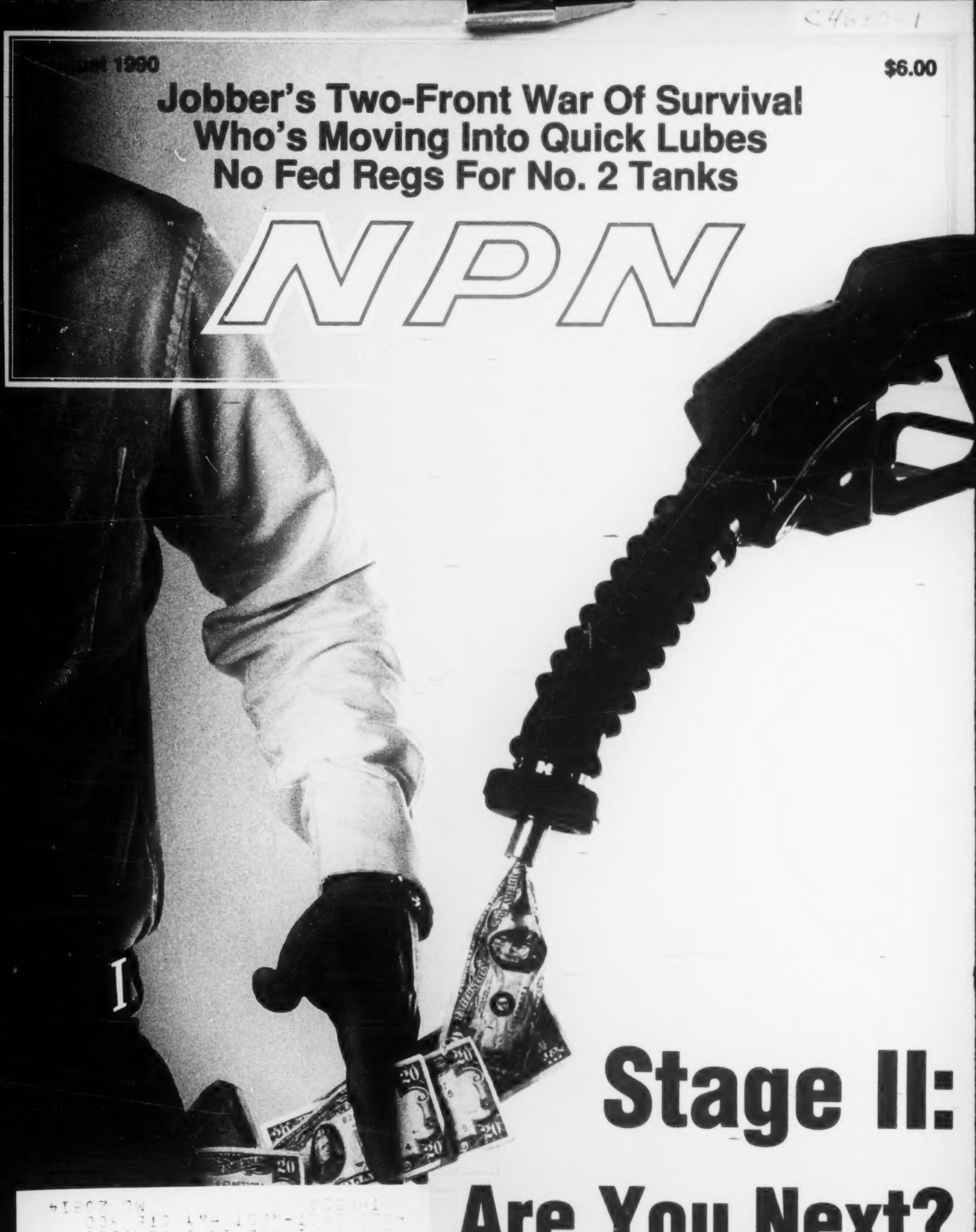
Jobber's Two-Front War Of Survival
Who's Moving Into Quick Lubes
No Fed Regs For No. 2 Tanks

NPN



Stage II:
Are You Next?

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NATIONAL PETROLEUM NEWS
Established in 1909

VOL. 82 **NO. 9**

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Editor's Viewpoint

Motorists hate them and Congress wants them. Sounds oh so familiar doesn't it? If you haven't already, you might want to take a good look at our August cover. It's *NPN's* version of a crystal ball. And as far as we can foresee, if Congress has its way, Stage II vapor recovery equipment will suck a few more dollars out of your bank roll.

The *NPN* cover story on page 34 addresses Congressional mandates which require the installation of pollution control equipment for capturing refueling emissions at service stations. Now that the Senate and House have pushed through their versions of the Clean Air bill, the two houses have begun their traditional arm wrestling to hammer out a final compromise measure. But, make no mistake, its a pretty safe bet that some type of vapor recovery devices will be required in a great many areas of the country within the next two to four years. That will mean outlays of between $15,000 and $50,000 per outlet.

As many marketers are aware, the question of whether Stage II works has yet to be sufficiently answered. One marketer summed up the industry's attitude pretty well: "They stink...they don't work...they cost more than they're worth...they spill more than they could ever possibly hope to recover..." Not surprisingly, this is only one of the negative comments that rolled off marketers' tongues at the mere mention of Stage II.

As you will read in the following pages, marketers in California, Washington D.C., the greater St. Louis metropolitan area, and the greater New York metropolitan area, including northern New Jersey, have been confronted with a refueling mechanism they say is ineffective, cumbersome, costly, wasteful and just plain doesn't work. In spite of what these marketers say, for some unknown reason, our state legislators apparently like the pollution control devices. Maybe it's just politics.

Under very trying circumstances, one gutsy small St. Louis jobber, Denise Loeffler of Bi-Rite Petroleum, is taking the government's regs and ferocious competition head on (See p39).

Loeffler has already been through the same wringer that a lot of you will encounter in a few years. No doubt most of you are still reeling from making the necessary tank upgrades and haven't had the opportunity to think about Stage II. But before you make your tank upgrades you might want to take a hard look at the Clean Air bill and see how it might affect your investment plans.

No one can truly predict what local, state, or federal regulators are going to mandate. Simply hope for the best and plan for the worst. Remember, your dealing with almost the same people who regulate USTs.

—Peggy Smedley

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Marketers in the worst polluting cities face almost certain federal mandates on Stage II vapor recovery. Problem is, marketers familiar with the system say it's costly, waste-ful and doesn't work right.

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Faced with expensive environmental regs on one hand and ferocious competition on the other, Denise Loeffler is carving out a small niche in the tough St. Louis market with an emphasis on personal service.

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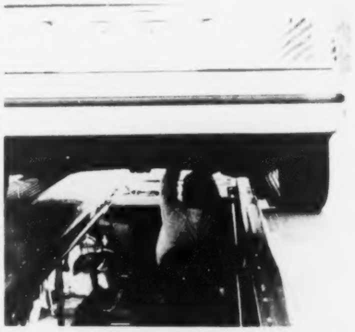

The quick lube business is reorganizing, rebuilding and retrenching in a number of ways. New entries in the field include the big three carmakers and major oil companies.

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• TRENDS

Are Low-Price Indies High-Price Converts?

While it's still a sporadic situation, a trend toward higher rack-to-retail gasoline margins has been slowly developing in the backlash of soaring costs of building and operating retail gasoline facilities.

Jack Malone, for one example, a large Memphis-based multibrand independent who has had his share of disagreements in the past over his "low" gasoline pump postings in small rural towns of Arkansas and Tennessee, indicates that he has become more margin-conscious lately.

Malone relates a conversation he had some time back with one of his station managers in a small Arkansas town.

The manager was losing business to an outfit named "Bozo's Barbeque" because Bozo's was selling gasoline below the Malone station. The manager suggested that Malone let him cut his pump prices to meet Bozo's.

Malone said no. Instead, he advised the manager to let his customers know, "We are putting in new tanks and pumps at his station to comply with environmental laws, and if we're to stay in town, we've got to price our gasoline at a level where we can make some money."

Gasoline customers, Malone explained, are seeing a lot of stations being closed due to the costly environmental regs. They will understand why those that wish to remain in business have to price their product higher.

Marketers with low-price marketing reputations like Malone, however, still believe in meeting fire with fire when they believe such is necessary.

At about the time Bozo's was giving his small-town dealer fits, Malone was meeting a low-price competitor in Memphis "right on the nose." This competitor, Malone complained, had been "run out of this market once," but had returned with his low-ball pricing tactics."We have to show him he still can't get away with that."

Malone's new approach of being cautious and selective in reducing his pump prices is paying off.

Recently, he was getting rack-to-retail "pool margins" ranging from about 10.07¢ to 13.8¢ gal. at his string of rural-type outlets in Arkansas and Tennessee. In two instances, the pool margins were as high as 15.25¢ and 18.25¢ gal. Not since the chaotic supply shortages of the 1970s have margins ranged so high in such rural markets.

In Memphis, even meeting the old foe's low prices at the one location, Malone's rack-to-retail margin was 7.5¢ gal. at the time. "That's not bad," he says. "This is a high-volume unit and we can make money at that level. Two or three years ago, we couldn't get that much margin anywhere."

Some marketers believe the high attrition rate of older retail outlets, coupled with the soaring costs of modernizing or building new units, will allow survivors from now on to generally get better markups. They think this will be so, in particular, in some rural areas. The same old toe-to-toe slugfests of the past, however, may continue to dominate some metro markets and interstate highways.

But while some marketers are enjoying better margins nowadays, their "bottom-lines" may not be improving due to soaring costs.

In Memphis, says Malone, some majors have recently paid $800,000 to over $1-million for "just the ground" to get prime locations. He estimates that with improvements, some of their investments at single locations easily exceed $1.5-million today. Similar huge investments are being put into interstate highway "fuel stops."

Such costly units require high gallonages. Usually, this translates into low markups.

"You've got to meet your high-volume targets at such units to keep your cost-per-gallon operating costs in line," says a low-price, high-volume marketer. "If you don't, they'll eat you up. We never give up gallons for margins. We will take whatever margin the market will let us have but we won't let our competition undersell us."

As some marketers see things shaping up, there won't be much letup in price competition in the metro markets and along the interstates. Those still hanging on in the smaller towns can generally expect better margins.

—by Marvin Reid

• MARKETPLACE AT A GLANCE

AVERAGE GASOLINE PRICES IN THE U.S. (per gal.)

May	Gasoline (All types)	Leaded Regular	Unleaded Regular	Unleaded Premium
U.S. City Avg.	$1.114	1.044	1.061	1.248
Regions				
Northeast	1.109	1.076	1.027	1.244
North Central	1.134	1.062	1.090	1.292
South	1.105	1.046	1.042	1.219
West	1.108	1.038	1.082	1.272

Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

STOCKS (Add 000 bbl.)

	6/29/90	6/30/89
Gasoline (Total)	215,318	219,942
Gasoline (Unleaded)*	165,074	156,473
Jet Kerosine	41,256	39,891
Distillates	110,058	100,626
Residual	44,004	43,259

**Included in gasoline total.*
Source: American Petroleum Institute.

Majors Making Quicker Moves Into Quick Lube

Mark Emond
Contributing Correspondent

To say the quick-lube business is changing is a vast understatement. Quick lubes are reorganizing, rebuilding and retrenching so fast in so many ways that the business seems sure to look quite different in a few years.

Consider these major developments:

- The three major U.S. car makers are organizing many of their thousands of dealers to do quick lubes, potentially doubling the total number of quick lubes in the country in a year or two.
- Two of the biggest motor-oil manufacturers and quick-lube giants are redesigning and downscaling their standard buildings, seeking more-economical means of staying in the business.
- Major oil companies aggressively selling lubricants to independent quick-lube operators are expanding into large networks without significant cash outlays.
- Major oil companies building franchise chains are starting to roll, attracting many branded marketers into the business.
- Through franchises, supplier programs, and their own independent efforts, petroleum marketers are expanding into quick lubes and becoming significant factors in the business.
- Major oil companies are continuing experiments to find the right quick-lube combination, and standalone units are giving way more and more to business combinations with two or more profit centers.
- Many independent quick lubes are expanding into other automotive services and products as a means of increasing sales and margins—often for survival.

Down the road, it may be that quick-lube facilities will come to resemble conventional service stations, with the important difference being that the lubrication business will dominate automotive service, not the other way around.

Big-3 auto makers jump in

Without a doubt, the biggest development in the quick-lube market in the past few years has been the decision of the big-three U.S. auto makers—Ford, General Motors, and Chrysler—to enter the business.

There are 18,200 big-three car dealerships in the United States, and if any substantial number of them are converted over to fast lubes, the effect on the installed lube-oil market could be enormous. The quick-lube population is about 5,000, most authorities believe, but about 8,000 if you include specialty automotive shops, such as tuneup, that also do quick lubes.

The car-dealer potential is even greater because foreign and other auto companies aren't likely to stand idly by.

Some specialists think quick lubes won't appeal much to service dealers because of their preoccupation with more-expensive services. "They concentrate on big tickets," says Tom Whennen, executive director of the National Assn. of Independent Lubes (NAIL). "They might find it difficult to change something that's been ingrained in the dealership for such a long time."

So far, quick lubes don't consider car dealers much competition, even those that have converted to fast lubes. Quick-lube owners believe dealer service centers aren't fast or convenient and probably cannot be sufficiently improved to change that image. Car dealers' share of the market has been flat at about 21-22% for past four years (see graph).

Auto makers, on the other hand, are aware of this reputation and think their quick lubes can turn the public perception around. This is especially true of Ford, which requires a dedicated, two-man service installation to qualify for the Motorcraft/Fast Lube program.

Ford was the first to kick off its program, in April 1989, promoting a 15-minute change with no appointment. In March 1990, there were 135 Ford and Lincoln-Mercury fast lubes in operation, and the company expected 225 year-end. This is not a large number for the time elapsed, and there's an apparent reason.

Requirements include specialized lift equipment, often a $9,000 hydraulic lift with a catwalk to permit an attendant to work on the top of the car while another attendant works on the bottom. "We feel this is the only way we can ensure that customers will

Mr. Goodwrench
QUICK LUBEplus

America's Favorite Oil Change

get a 15-min. fast lube as promised," says Bob Craik, special project coordinator. Catwalks can also be installed on some existing lifts for much less.

If a dealer doesn't already have simultaneous top-bottom capability, Ford's fast-lube package, including signage and other materials, would cost $22,000, Craik says. The relatively large investment required could discourage many of Ford's 5,500 dealers from entering the program.

GM's Mr. Goodwrench Quick Lube Plus, launched April 1, 1990, reported more than 1,700 participating dealers in a little over three months. Michael McShane, manager of the program, says there will be 2,000 by year-end and probably 4,000 in a couple of years.

GM's main requirement is that dealers complete the oil change and 10-point check in 29 minutes or less or give the next service free. Some dealers have decided to build a separate quick-lube facility, but most just use their existing bays. Therefore, the potential for conversion is much larger than for Ford. There are 7,400 qualified Mr. Goodwrench service facilities of a total of 9,700 GM new-car dealers.

GM, and probably other auto dealerships, aren't as concerned with the number of jobs they do in a day as are quick lubes, where car counts are the life blood. McShane explains, "We're not faced with breakeven car counts that specialty quick lubes are. If our lube racks don't have cars on them doing lubes, they can, unless they are specialized racks, be used for other services."

Ford, which buys its lubes from Mobil, got into bulk lubricants through its quick-lube program. Conoco supplies the Motorcraft lubricants.

Chrysler, the latest to join the trend, has a potential of 5,300 Chrysler/Plymouth, Dodge, and Jeep/Eagle dealers that could offer Mopar Xpress Lube. It requires a lube job in 30 minutes or less or the service is free—not the next one, but this one. Mopar lubes are supplied by Citgo.

Participating dealers will dedicate a bay to Xpress Lube and perform only quick lubes there. Personnel will receive specialized training.

In early June, with the program just in the launching stage, Dick Bentzen, Chrysler service manager, said he was forecasting 250 participants the first time through the country and 500 by year-end, with 1,000 in 18 to 24 months, "conservatively."

Big-3 quick lubes scale down

The three dominant manufacturers and marketers of motor oils also have three of the largest quick-lube chains—Pennzoil, Quaker State and Valvoline (Ashland). Together they have 2,300 operating fast lubes, about half of the total U.S. population.

In a shakedown that has been going on for two years, not connected with the automaker programs, all three are re-evaluating their operations and developing economies that will enable them to continue in the business. The rapid expansion of the past few years has caused many problems.

Jiffy Lube International, with 1,050 stores, developed severe financial troubles, culminating in Pennzoil's takeover by acquiring 80% of the company. A spokesperson says, "We grew too fast and our debt load became unbearable."

The founder and chief executive, James Hindman, is no longer involved actively, but is remaining as a consultant for five years. The new president and CEO is J. Ronald Calabrese.

Jiffy is engaged intensively in redesigning its stores to be less costly and more efficient. It's taking back some stores from franchisees who couldn't make it, bringing the facilities up to new standards, and remarketing them. With openings and closings, planned expansion will be a modest 10% this year. Future expansion will be 20% annually, a spokesperson says.

Pennzoil also supplies 550 independent Pennzoil 10 Minute Oil Change stores.

Quaker State Minit-Lube has 379 centers, with plans to add another 30 this year. During the past year the company has not been expanding as aggressively as it did previouslly and has developed smaller new buildings.

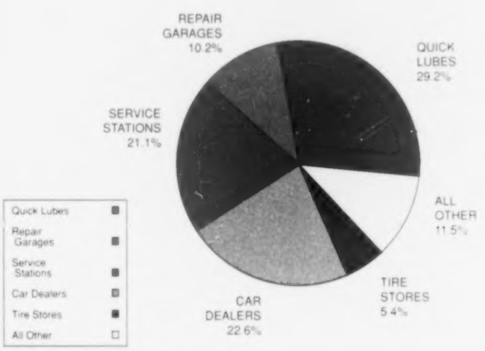
Minit-Lube will build nothing bigger than two-bay, in-line 1,140-sq.ft. units with pits (lower work areas). In the past, a typical building had three or four tandem bays, full basements, and up to 1,950-sq.ft. (In-line bays can accommodate one vehicle each, tandem bays two vehicles each.)

Summing up, Ron Witzel, manager of construction and development, says, "We're trying to control overhead and reduce our development cost to a point where our breakevens and paybacks are workable."

Valvoline Instant Oil Change, with 278 company-owned stores, has the most control over its operation of any of the largest quick-lube chains. Many have been acquired by acquisition, and Valvoline is concentrating

INSTANT OIL CHANGE
Express Lube

Manufacturers of motor oils, the big-three U.S. automakers and the majors are aggressively expanding into the quick-lube business making the competition even more fierce.



DISTRIBUTION OF INSTALLED SECTOR BUSINESS BY OUTLET — 1989

12 MONTHS ENDING DECEMBER

on bringing them up to company standards.

Valvoline plans to build about 40 a year in the foreseeable future, some of them on shared sites with tuneups and other automotive services. The simple, basic quick lube remains the same, 10 or 15 minutes. It probably can be done faster, but the public might think it was being short changed, a spokesperson says.

Automatic transmission servicing is being added at some stores to improve profit margins. No other service additions are presently planned.

A spokesperson doesn't think Jiffy Lube's financial crisis indicates any chronic problems in the business. "The industry has been going through a shakeout the last two years, with the prime events being the entry of the major oil companies and now the auto dealers," he says.

"A couple of years ago the philosophy in the quick-lube business was to grow as fast as you can, get numbers of stores, market share. I think all of us found out that real rapid growth might not be the way to go. You've got to get the quality sites, that's most important."

Where the oil action is

The biggest impression major oil companies are making so far on the quick-lube market isn't the result of standalone units, but rather in the number of independent supply contracts or franchisees they are lining up.

Standouts are Texaco, Citgo, Mobil and Unocal—each with a different program.

NAIL calculates major oil companies supply about 10% of the quick lubes in the country. If the total is 5,000, then majors supply 500. This is probably on the low side.

Texaco has 251 signed agreements to supply Havoline Oil. Of these, 200 are Texaco Express Lubes, which get the benefits of the name, credit cards, training, merchandising and such. The others are independents who carry Havoline motor oil as their primary product.

Texaco has four standalone Express Lubes run by Star Enterprise, the partnership between Texaco and Saudi Arabia. While the lubricants department pursues its efforts to sign up additional quick lubes, the refining and marketing company plans to build new quick lubes in combination with other businesses in a test program aimed at finding the right combinations for its marketers.

Citgo, a jobber-oriented company, is cultivating quick-lube business in a program similar to Texaco's, but without stores of its own and without significant capital investments.

A supply contract with United Auto Service Centers, an Avis franchisee, has resulted in a few quick lubes in the Northeast and Southeast, but the program has stalled for reasons unclear to Citgo. "I'm really not sure where that program is going," says Tom Spann, manager of the program.

But on other fronts, Citgo is moving right along. Citgo supplies some 80 or 90 quick lubes indirectly through its jobbers, and about 100 on a direct basis in a deal with P & M Oil Co., Landsdown, Pa., which has over 100 quick lubes in 25 states. "They've made national agreements with a number of franchisers," says Spann, "and we've made an agreement with them."

To assist its marketers in the quick-lube business, Citgo studies a site and provides some demographics to help decide if it will build a quick lube. The company offers generic building plans to give marketers a start on design. In association with Joe Haggard's National Fast Lube Training Center in Cocoa Beach, Fla., Citgo offers a five-day training program for prospective investors and operators.

Citgo usually sets a target of 50 to 100 quick lubes a year, but the target is reevaluated every year depending on market circumstances.

Citgo supplies quick lubes direct, with the distributor delivering, or indirect through the distributor. In the former case, Citgo has the account; in the latter case, the marketer has the account.

In the case of Citgo's contract to supply Chrysler quick lubes, Chrysler picks the distributor it wants to work with, with Citgo's recommendation. Chrysler buys the lubricants from Citgo and tells the distributor to pick them up at Citgo's terminal and where to deliver it.

"It's like Chrysler is hiring a carrier," Spann explains. "As long as they are approved carriers or persons who can handle the product like that, we have no concern who picks it up at our terminals."

Mobil's test of freestanding quick lubes, Lube Express, announced in November 1988, has stalled, but its efforts to sign up independents is moving ahead aggressively.

Of the 18 outlets Mobil said it would build—six in Texas, six in northern Virginia and six in Florida—the six in Texas have been opened, two have been built in Florida, and none has been opened in Virginia. A spokesperson did not know when the 18 would be completed.

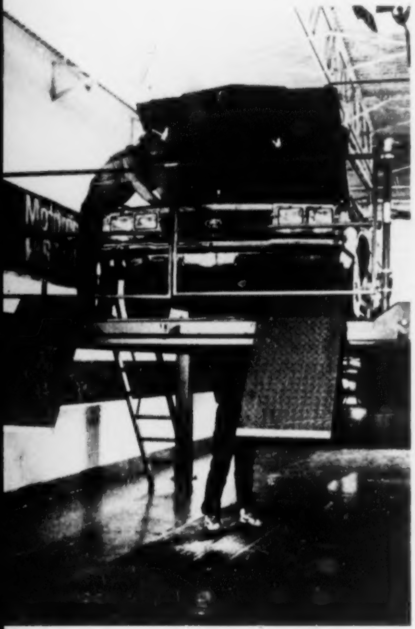
The spokesperson acknowledged that Mobil was interested in signing up independents—"that's the name of the game"—but he would not say how many there are or what the company's plans are.

Unocal has two quick-lube programs, one for its jobber-oriented operations in the East and one for its dealer-oriented operations in the West. Both are keyed to multiple profit centers.

In the East, Unocal has signed up 34 new franchisees in a program that strongly emphasizes associated profit centers wherever possible. Of the 34, 17 were open in June and the remainder are in various stages of completion.

There were nine standalones in the lineup, and the rest were combinations. The adjunct profit centers for the first batch of 76 Express Lubes are: gasoline (5); gasoline and C-store (7); gasoline, C-store and automotive service (2); car wash (4); car wash and gasoline (1); car wash, gasoline and C-store (2), car wash, gasoline, C-store and diesel fuel (1), car wash, gasoline, C-store and automotive service (1); tire center (1); and muffler center (1).

When Unocal sees a site it thinks would



Ford Motor Co. was the first automotive manufacturer to kick off its quick oil change business in April 1989, promoting a 15-minute change with no appointment.

make a good Express Lube, or one of its marketers suggests one, the company studies the property "to see what the marketer can do to develop it to get the best return on investment," explains Jack Day, manager of the program. "We help him make the decisions that best fit his needs, his area and his budget. The most successful units are ones that have multi-profit centers on the same piece of property."

In the West, Unocal has built no standalone quick lubes and doesn't intend to do so. Six planned for next year "will all be packaged with something else," says Ron Ciciarelli, 76 Expresslube specialist. The most-likely combination will be with an existing self serve C-store/gasoline station.

Unocal's current program, however, consists of dedicated bays at dealer stations. There are some 30 now, with a total of about 80 planned by the end of next year.

Some have full basements and some have pits. Some are drive throughs, which the company prefers. Ciciarelli explains, "It gives the appearance of a professional lube setup. I think the public is more geared to that concept." In any case, a dedicated bay, available if a customer wants a quick lube, is a must, he believes.

Some dedicated bays have a two-man hydraulic hoist with a center post. The rack has a catwalk around it so that one attendant can work on top and one below.

Oil-company standalone quick lubes appear to be all still experimental. The vast resources in capital and sites that oil companies command hang heavy over the quick-lube business.

Sleeping giants

It took oil companies two decades to make up their minds about C-stores, but it may take less time to make up their minds about quick lubes. Lube specialists think oil companies will jump in soon. Says Whennen of NAIL, "We feel they will be a major player in the market, but not yet. It's going to be another year or two before they find the right combination."

Most oil companies are experimenting with standalones. Among the latest new tests are Chevron's.

A converted Gulf station in Texas never got off the ground. Current Chevron experimentation is on the West Coast, where the company has four Chevron Fast Lubes. Three are company operated, and one is dealer operated.

John Holmes, coordinator of retail lube centers, says two are pit types, with 2x2 bays, meaning two side-by-side bays.

Two retrofit centers are especially experimental. One employs a four-post electric hydraulic lift equipped with a catwalk that the top attendant walks around on. The bottom attendant works on the bay floor as usual.

At a second unit, Chevron is testing a prefabricated steel trench, about 40-in. deep, that permits the bottom attendant to service the undercarriage on a movable chair. The oil is drained by means of a suction pipe inserted in the dipstick tube.

Holmes provides plans to each of the marketing regions, which operate as separate business units, so that he doesn't know what type of quick lube they'll build or retrofit. Quick lubes are becoming popular where local ordinances ban eliminating service stations. A quick lube is acceptable, Holmes says.

Holmes says, "We've been getting experience, learning the merchandising end of the quick-lube business, which is different. All are in conjunction with gasoline. They're not standalone and won't be. We think it's a viable alternative, given the right demographics and competition. We're pretty much in the learning stage and we're learning a lot."

Chevron is reportedly putting together a package of aids to help its marketers get into the quick-lube business.

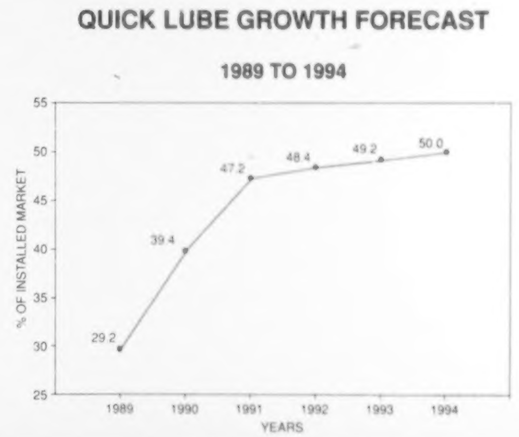
Phillips built one quick lube in Borger, Texas, and is building another in Tulsa. A spokesperson says no conclusions have been reached yet.

Phillips reports it has signed a supply agreement with a new quick-lube operator, Lickity Split, Springfield, Mo., with one in operation and several others planned.

Shell has no quick lubes and a year ago wasn't thinking of building any. This year, however, a spokesperson says the company is considering some. Its Right-a-Way dedicated bay program for dealers is still operative, but a spokesperson wouldn't say how many dealers are participating or how the operation is going.

Amoco is considering turning over its three test Amolubes in Minneapolis to dealers. It has a dedicated bay program for dealers, but a spokesperson says the number participating is unknown.

Amoco is encouraging its marketers to



enter the quick-lube business at existing stations. For $6,000, marketers with at least two bays can buy a specially designed quick-lube lift, and for another $3,000 they get a signage package.

Amoco appears to have come to the conclusion that existing stations, either dealer or jobber, are tactically best situated to compete with the quick lubes of competitors.

Exxon, after building a standalone Superflo Fast Lube in Charlotte, N.C., last year, has built no others, evidently preferring its franchise arrangement with Mr. Lube International, a Canadian company, and its own dedicated bay program for dealers and marketers.

Most of Exxon's Mr. Lube quick lubes are located in conjunction with its stations. This arrangement is preferred because existing stations provide ready-made traffic that enables the quick lube to build volume more rapidly than one standing alone, Exxon believes.

After about a year of testing Express Oil Service dedicated bays at more than 100 stations in New Orleans, Baltimore and Morristown, N.J., Exxon reportedly is expanding the program, with plans to offer a package to jobbers nationwide. A $450 kit provides signage, merchandising material and a training video tape.

Emro Marketing, Springfield, Ohio, a wholly-owned subsidiary of Marathon, has two Speedway Lube Centers, one opened in December 1989, in Dayton and one in February 1990, in Columbus. They are 1,400-sq.ft., including office, storeroom and bathroom, with two bays and pits.

The centers carry Quaker State motor oil in addition to Marathon's own Titan brand. Leon Marlowe, marketing vice president, says no others are planned.

Where to go from here?

Oil companies are making inroads into the lubricant market taken away by quick lubes, but not fast enough. Statistics show service stations are losing lube volume at about the same rate quick lubes are gaining it.

Between 1985 and 1989, the service-station share of the installed motor-oil market fell from 38.9% to 21.1%, a drop of 17.8 percentage points, according to NPD, a market research firm. Contrarily, quick-lube market share rose from 12.2% to 29.2% during the period, a gain of 17.0 points (See graph).

These figures may be misleading, however, from the point of view of oil companies, though not from the point of view of dealers. Quick-lube sales include volume supplied by the majors. In other words, major dealers are losing substantial volume to quick lubes buying oil from their suppliers.

Oil companies have the means of regaining some of the lubricant market directly, while dealers basically don't. There appears to be no way out of this dilemma unless oil companies develop strong quick-lube programs for their dealers.

The installed lube sales of repair garages and car dealers have remained roughly static over the past five years, NPD reports.

In 1989, the market shares for installed sales were as follows: quick lubes 29.2%, car dealers 22.6%, service stations 21.1%, repair garages 10.2%, tire stores 5.4%, and all others 11.5%, NPD says (See pie chart).

In Chevron's program, a bottom attendant scoots along on a chair to service the undercarriage. This allows a car to be serviced from the top and bottom simultaneously.

Shifts in market share are serious now, but will become more serious over the next few years, forecasts show. The 29.2% share of quick lubes in 1989 is expected by some authorities to increase to 50% in 1994 (See graph). The question is, out of whose hide will the increases come?

Larry Northrup, executive director of the Convenient Automotive Services Institute (CASI), an association representing franchisors, franchisees, suppliers and independents, believes the heyday of quick-lube expansion has probably passed and the majors may already have missed the boat.

"None of the integrated oil companies has made a big splash yet, although almost all of them are sniffing around," he says. "I think they may have missed the boat, unless they can buy up a large existing franchise, which is always a possibility. But as for starting from scratch right now, I think that would be really tough to do."

He adds, "Oil companies are so large, any decision they make is going to take years."

Northrup doesn't think dedicated service-station bays will cut the mustard, either. He says, "Quick lubes are quick, that's their reputation, and stations don't have that reputation."

Within the quick-lube business, NAIL's Whennen says the next year is going to be a testing ground for additional products and services quick lubes can provide—not just tuneups, which are already spreading, but automatic transmission service, radiator flushing, air conditioning, smog checking, tire rotating and others.

"It's going to be like, what goes around, comes around," he says, comparing the evolution of quick lubes to that of the C-store business, which started with basic products and expanded broadly.

There's no consensus among lube specialists at what stage in its life the quick-lube market is: youth, adolescence, or maturity. Nobody says it's in its old age.

Some markets are said to be saturated or nearing saturation. Some mentioned are Dallas/Ft. Worth, Chicago, some Atlantic Coast and Florida markets, Phoenix, Seattle and Atlanta. One source says metropolitan areas in general are "pretty much saturated."

Quick-lube specialists almost unanimously believe location is the name of the game. What some seem to be leaving out of their appraisals of oil-company potential is locations—a vast resource oil companies have in the very competitive real estate market.

As it was in the case of convenience stores, oil companies are capable of great effect, even after the passage of many years, substantially because of their reservoir of sites.

Lubricants are one of their most profitable businesses and groceries were not. There are pretty good odds that it won't take oil companies so long this time around.

NOTE

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NPN

National Petroleum News

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C-Store Profit Boosters

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Editor's Viewpoint

Without question, all of you have been encouraged, and perhaps even beguiled, at one time or another by the lucrative potential represented by convenience stores. The business is out there; no doubt about it. But the question is how do you make that C-store, or for that matter any business, truly profitable?

Many retail marketers have found tremendous success in the C-store industry and are making a nice pocketful of change in this exciting business. However, after interviewing a variety of marketers from across the United States, we have discovered that making an honest profit isn't as easy as many make it out to be. Typical gross revenues can be very tantalizing, but it takes a dedicated marketer to make the cash register ring out a melody of net profits.

To some petroleum marketers, getting into the convenience store arena might appear to be somewhat more difficult these days because C-stores are just about everywhere. Some say the market is saturated. However, a number of successful marketers tell us the C-store industry is still a winning proposition if you specialize in certain high-demand product categories or develop "niche" markets.

It's a juggling act, in the main. And juggling those potentially profitable convenience store goodies can be exciting and challenging. It's also demanding; our staff interviews revealed that it takes good planning, smart business practice and a little help from lady luck.

The trick is not to spread yourself too thin, some marketers advise. Keep the focus on those profit makers that make sense for your operating style that will work in the markets you serve. Gourmet coffee, for example, works well in an upscale Boulder, Colo., setting. Fried chicken can boost inside sales in rural Michigan.

"It's not a question of can you be successful, but what you focus your priorities on," explains one California refiner/marketer. "What we do, we do well."

In the complete C-store report that begins on page 38, petroleum marketers explain how they differentiate their convenience store operations from their competitors. So I guess the message this month is not what you sell, but how well you sell it.

—Peggy Smedley

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In today's highly competitive market, savvy C-store operators seek out the merchandising "hook" that will pull in customers. Here's a roundup of in-store profit centers that marketers around the country have successfully developed.

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CASEY'S
CASE

Casey's General Stores has built a successful and growing chain of C-store/gasoline outlets by targeting the small towns and rural areas of the Midwest. Here's how they did it.

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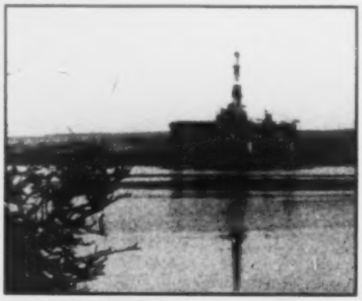

The marketing of "petrol" in the United Kingdom takes place in a fast-paced, highly congested market environment, with the competitive emphasis geared to modernizing and creating the most up-to-date facilities possible.

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Second Quarter Nets: Interesting; Not Exciting

Some oil companies made bundles, both upstream and downstream, in the second quarter of this year while others lost money. Overall there was little in any of the reports to get excited about.

At first glance it looked like Exxon had made a real killing in the second quarter, an increase of 686%. But that was only because the second quarter of last year had been depleted by the assignment of tens of millions of dollars to help clean up the Valdez spill disaster in Alaskan waters.

If Valdez hadn't happened or if the cleanup costs had been excluded from the 1989 earnings summations, Exxon would probably have made a billion dollars or so in that period and the inevitable financial comparisons would have been small, maybe "even-steven" or a slight decrease.

Chevron, which seemed to have been having all sorts of downstream marketing problems, surged brightly in the second quarter and the first half. It earned $648 million in the second quarter and $1.12-billion in the first half, up 60% and 50%, respectively. Downstream it looked even better, coming up with domestic increases of 260% and 290%, respectively.

The Boxscore: Valdez Losses Make Exxon Look Good

The Corporate Returns
(Millions of Dollars)

	2nd Qtr 1990	2nd Qtr 1989	% Chng	6 Mos 1990	6 Mos 1989	% Chng
Exxon	$1,110.0	$ 140.0	685.7%	$2,380.0	$1,950.0	22.1%
Mobil	498.0	401.0	24.2	898.0	830.0	8.2
Chevron	648.0	404.0	60.4	1,121.0	717.0	56.3
Amoco	379.0	497.0	(23.7)	845.0	955.0	(11.6)
Shell	161.0	440.0	(63.4)	363.0	801.0	(54.7)
Texaco	353.0	366.0	(3.6)	681.0	1,821.0	(62.6)
Arco	391.0	467.0	(16.3)	983.0	1,171.0	(16.1)
BP America	n/a	n/a	n/a	n/a	n/a	n/a
Phillips	105.0	197.0	(46.7)	364.0	387.0	(5.9)
Conoco	166.0	114.0	45.6	363.0	331.0	9.7
Unocal	165.0	120.0	37.5	242.0	207.0	16.9
Marathon	315.0	257.0	22.6	557.0	498.0	11.8
Sun	115.0	105.0	9.5	186.0	186.0	--
Amerada Hess	(72.1)	133.5	--	(32.5)	353.7	--
Pennzoil	4.8	118.0	(95.9)	37.3	170.6	(78.1)
Ashland *	100.0	43.5	129.9	122.9	125.6	(2.1)
Kerr-McGee	30.1	34.7	(13.3)	57.2	98.6	(42.0)
Murphy	28.5	16.8	69.6	57.5	23.2	147.8
Amer. Petrofina	53.8	41.8	28.7	80.2	90.6	(11.5)
Citgo **	84.4	63.6	32.7	130.4	112.3	16.1
Dia. Shamrock	28.6	29.0	(1.4)	28.6	28.6	--
Total	17.2	26.3	(34.6)	4.9	28.1	(82.3)
Crown Central	15.2	6.3	141.3	16.3	5.5	196.4
Coastal	22.1	35.3	(37.4)	97.7	95.7	2.3

** Third quarter, fiscal ends 9/30; ** Operating profits, not net.*

Chevron, Texaco, Arco and Sun Hit Marketing Jackpots

Downstream Earnings

(Millions of Dollars)

Exxon (Total)	$574	$236	143%	$765	$411	86%
Domestic	76	95	(20)	48	132	164
Foreign	498	141	253	717	279	1506
Mobil (Total)	278	79	252	370	188	97
Domestic	58	102	(43)	97	171	(43)
Foreign	220	(23)	--	273	17	157
Chevron (Total)	448	166	170	678	216	214
Domestic	370	103	259	429	110	290
Foreign	78	63	24	149	106	41
Texaco (Total)	328	209	57	464	346	34
Domestic	171	79	117	201	116	73
Foreign	157	130	21	263	23	14
Amoco (Worldwide)	(125)	213	--	(14)	327	--
Shell	73	132	(45)	52	245	(79)
Arco	175	91	92	247	108	129
Conoco	135	92	47	216	163	33
Sun	131	65	102	156	132	18
Marathon	263	169	56	340	235	45

Middle East: The Sound Of Dominos Falling

What happened in the Mideast in late July and early August will have costly overtones and economic repercussions in the United States and the rest of the world, especially those countries where petroleum consumption is heavy—for years to come. The United States is the world's greatest consumer of oil products.

Even if Iraq is slapped down by international censure, global isolation and/or military intervention via maritime blockades, peace and serenity will not come back easily. Prices, always volatile and susceptible to rumors, reports and speculator high jinks, will be jittery and generally irrational in marketplaces for the next 12 to 24 months.

These are things that oil companies, analysts and the marketplaces were pretty well agreed upon in the early days. Where gasoline and fuel oil prices are concerned, all forecasts and even day-to-day updates were outdated almost hourly with electronic services telling already nervous speculators all they needed to know, be it fact or fiction. Television added new dimensions to the disorder.

One of the calming voices for marketers was that of Phillip Chisholm, executive director of the Petroleum Marketers Assn. of America. There are ample supplies of crude oil available through the world, he says, and the U.S. Strategic Petroleum Reserves also has 600-million bbl. tucked away for security reasons.

"I think that the operative phrase for our industry as well as our customers is 'don't panic.' Clearly the events in the Middle East are a cause for concern throughout the world, but it also important to remember that oil is, in fact, a commodity and as is the case with any commodity, price volatility works both ways—prices can rise very quickly and they can fall very quickly."

Unfortunately gasoline prices went up so fast—14¢ gal. in some places within hours of the Iraqi attack on Kuwait—that the actions brought criticism and scorn for the price leaders and, subsequently, the industry as a whole. One cynic, recalling last winter's fuel oil spike, muttered, "Yeah, how fast they went up and how slow they were to come down." Price gyrations were fantastic. In New York City, for example, gasoline sold at some stations at $1.75 gal., amid predictions that $2.00 to $3.00 gal. retail postings were distinct, but discordant realities.

If, in the event of a blockade of Iraqi and Kuwaiti exports, the loss of these sources of crude oil supply would be relatively meaningless to the U.S. Total imports from these two countries amount to less than 2-3% of the U.S. supply. Where it would be disastrous, however, would be in the global dislocations of crude oil shipments to other countries and the resultant jungle-like competition for what's available.

Most of the world, including those who would be hit hardest by the disappearance of Iraq and Kuwait oils, agreed at the outset to an international boycott, even Japan and the Soviet Union. If it holds up, Iraq could probably be brought to its knees quickly.

• TRENDS

Spill Legislation May Cause Oil Shortages Later

There's no room for complacency these days in what used to be the routine transfer of crude oil from faraway well heads in the Middle East, North Africa, Latin America and elsewhere to the relative sanctity of the terminals and storage tanks feeding U.S. refineries.

Two words, "unlimited liability," are the cause of it all. There is so much volatility in them, in fact, that some analysts already foresee the possibility of domestic shortages of refined products by the mid-'90s; in other words, "gas" lines again and/or, depending upon the season of the year, perhaps run-outs of distillates in home-heat tanks as well.

There's no shortage of crude oil now, or is there expected to be throughout the '90s. But there are thousands of miles of ocean waters between the loading ports in other parts of the world to the terminals, tanks and pipelines of the East, West and Gulf Coasts.

The problem is: Who owns or is responsible for the crude oil once it is aboard a tanker? Who pays the tab—and how much—if there is an accident? The shipper? The buyer? The owner of the tanker? The insurance firm? Individually or collectively?

Obviously, if there is an accident, such as the Valdez problem in Alaska or the sea disaster of an Amoco tanker off the coast of France several years ago, in which millions of gallons of crude oil bathed shorelines and pristine territories for miles, the liability cost can easily run into the billions.

The U.S. Congress is on the verge of breaking a 16-year impasse on oil-spill legislation. This bill, presuming it will be passed by the House and Senate and signed by the President, will make the vessel owners solely responsible for the cargoes and liable for all spills and damages, including environmental repairs. Shippers would no longer share such responsibility.

The House-Senate conferees who approved the legislation rejected a clause that would have okayed U.S. participation in an international treaty that would have limited shippers' responsibility in a spill.

What this does, in effect, is to affirm the right of individual states to specify unlimited liability for shippers, ship owners and/or other parties. The federal law would not preempt. Maine already has such legislation and conceivably other coastal states could soon follow or will do so at their own pace.

Now, oil companies, shippers, ship owners, insurance companies, *et al*, etc., are seeking ways and means to get around the "unlimited liability" problem. Some ship owners have subdivided their fleets into one-ship companies, to minimize liability claims against the total operation. A one-time U.S. oil trader, now a fugitive living in Switzerland, was said to have started a new insurance company which would take title to the oil while in transit and return it to the owners once it was delivered. A Texas oil man reportedly is working on a similar plan.

The biggest problem is that legitimate companies may be scared away from handling cargoes of crude oil to the U.S. and risking their assets each time. This, they say, could cause oil shortages later in the '90s. These analysts also say the tricky situation and the fact that big money could be made would attract inadequately financed tanker owners who would simply fold up and fade away if an accident occurred. Their equipment conceivably could be so poorly maintained that they would be more vulnerable to more accidents and problems, not fewer.

An indication of what might be in store for the future: *The Wall Street Journal* said recently that four barging companies, including units of Texaco and Amerada Hess, have already stopped heavy oil shipments to Maine because of its "unlimited liability" law. The journal also said six other companies, not identified, are now refusing to transport crude to the U.S. in anticipation of the bill now pending in Congress. Still another example: A major crude carrier on the West Coast has already pulled its 51 tankers from U.S. ports. The problem's going to get bigger in the months ahead.

J. Richard Shaner

• MARKETPLACE AT A GLANCE

AVERAGE GASOLINE PRICES IN THE U.S. (per gal.)

JUNE	Gasoline (All types)	Leaded Regular	Unleaded Regular	Unleaded Premium
U.S. City Avg.	$1.140	$1.077	$1.088	$1.271
Regions				
Northeast	1.144	1.117	1.065	1.282
North Central	1.154	1.091	1.112	1.306
South	1.123	1.073	1.061	1.236
West	1.141	1.073	1.017	1.298

Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

STOCKS (Add 000 bbl.)

	3/2/90	3/3/89
Gasoline (Total)	218,483	222,441
Gasoline (Unleaded)*	167,736	162,881
Jet Kerosine	44,668	41,668
Distillates	119,228	113,993
Residual	45,201	41,768

**Included in gasoline total.*
Source: American Petroleum Institute.

C-Store Profit Boosters

An NPN Special Staff Report

What separates the winners from the losers in the convenience store business? What makes one C-store profitable while another store—same town, same customer base, perhaps even the same neighborhood or street—is losing its shirt?

There's no simple formula for C-store profitability that works for all marketers in all situations. In today's highly competitive market, savvy C-store operators are looking for the merchandising "hook" that will pull customers into their stores and make their cash registers hum. Each department in the store, each product category, is carefully scrutinized for its performance as an individual "profit center" within the context of the store's overall operation.

Many jobbers and C-store companies have done their homework and worked hard to develop the right mix of profit centers for their C-store operations. On the pages that follow, *NPN* presents a series of reports on how individual marketers from around the country have boosted their store profitability by creating successful merchandising programs for selected products and services—deli bars, ice cream, beverages, fried chicken, hot dogs, cigarettes, videos and other product lines.

However, successful merchandising is not simply a matter of stocking your shelves with the right product. Identifying what your customers really expect from your stores and motivating your managers and employees to do a better job of merchandising and selling are also important.

This is not textbook stuff. These are actual case histories of how some marketers—with operations quite similar to yours and those of other marketers—have successfully implemented the profit center concept in their stores.

Ice Cream/Soft-Serve Yogurt

The smooth, creamy appeal of soft-serve yogurts, ice creams and non-dairy products can give marketers a unique edge in C-store merchandising.

Taylor Oil Co. of Wellsville, Kan., may have found such an edge with a non-dairy product marketed toward diabetics.

"People drive 20-30 miles because we're the only store with the product," says Curt Wright, C-store director for Taylor Oil. The company markets the product, called "Skinny Dip," (a yogurt-like desert flavored with natural fruit sugars), through newspaper ads in small, rural areas (roughly 10,000 in population).

Wright estimates that since introducing the product back in December of last year, sales in one store have increased $60-$70/day. Three of Taylor Oil's five stores offer the Skinny Dip product. He adds that the other two locations have seen an increase in new faces coming through their doors with the introduction of the product.

"In the summer heat, it's something to cool off with, and during winter, (the product) can be marketed to diabetics, many of whom can't find it in the grocery stores," Wright says.

As far as equipment goes, Wright says his company got a good deal on dispensers at local auctions. He says a new soft-serve dispenser can run in the range of $2,000.

Labor is involved as well. With soft-serve equipment in general, jobbers say the equipment must be cleaned every day, consuming a good hour of an employee's time.

Costs for the Skinny Dip product are also roughly 50% higher than regular yogurt, but Wright says high margins for yogurt and other soft-serve products make up for the cost—and sales more than make up for the cost of both equipment and labor.

All in all, Wright says his soft-serve product works, giving him an edge in a market that's getting more and more competitive.

Ice cream can also be a sweet ticket to cool profits, as marketers are finding out. High margins, minimal labor and the taste-tempting lure of fresh products all add up to increased in-store sales.

One Columbus, Ind., marketer calls ice cream the easy way to get into fresh foods without the complexity of a deli.

"People like fresh items, whether it's a sandwich or a deli item or ice cream," says Dick Johnson of Johnson Oil Co. He says many people prefer a fresher snack such as ice cream over something prepackaged, like a candy bar.

Johnson, who has been offering ice cream for about five years now, sells it in a dozen of his 50 "Bigfoot" convenience stores. Each store features a dozen ice cream selections displayed in glass-enclosed freezers. The freezers are placed next to the checkout counters at each store.

In that location, ice cream becomes an impulse item, advertised by its visual appeal, point-of-sale signage and sometimes "suggestive selling" by the cashier.

Johnson pays $100/mo. to lease the ice cream equipment.

He says that while ice cream is just one ingredient in the store's recipe of merchandise, it does "better than average" as compared to the average C-store margin of roughly 33% according to the National Assn. of Convenience Stores (NACS).

High sales volume can accentuate

profits, as Andalusia, Ala., marketer Myers Armstrong of Price Oil Co. has found over the last decade of selling ice cream.

Armstrong says his customers have come to identify his stores with the cleanly-displayed, quality ice cream he sells. An average store can sell up to 30 three-gal. buckets of ice cream a week, Armstrong says.

Price Oil maintains strict quality controls, keeping the product from getting old or stale. Employees also go through a 30-45 minute training session on how to scoop ice cream and keep it fresh, Armstrong says. He adds that sales in his area remain strong through winter months.

Johnson of Johnson Oil says a location will suffer if there's a local ice cream franchise in the neighborhood, but in areas where there is no other ice cream shop, the product is a good mix at his C-stores. Johnson also adds that high-traffic interstates full of hungry travelers also make for good ice cream business.

To differentiate his stores from others, Johnson has taken to selling "premium" ice creams, touting both their richness and low calorie content.

Johnson and Armstrong both agree that ice cream requires minimal labor and makes for a clean entry into fresh foods.

Beverages

The sweltering Kansas heat would be enough to boost cold beverage sales in Hutchinson, Kan. But for T & E Oil Co., its ability to boost its soda, juice and beer profits by 10% each year over the last five years has to do with another very fortuitous situation.

T & E Oil owns and operates nine gasoline station/C-stores ranging in size from 1,000 to 2,400-sq.ft. Eight are located in Hutchinson, which has a population of 40,000 and relies heavily on the agricultural and aircraft industry trade.

The company markets Fina, Texaco and Phillips brands of gasoline, and does so in a town, Hutchinson, that is regarded by many as the softball capital of the U.S. It's gained that distinction with a modern, state-of-the-art softball facility, which plays host to out-of-town tournaments most of the summer and early fall.

But its out-of-town softball interests are just the tip of the iceberg. The town has a wide variety of local church and recreational 12-inch softball leagues that run from May to October. That's the main ingredient for T & E's exceptional cold beverage sales in Hutchinson, for anyone who knows anything about softball players knows that icy cold ones go hand-and-glove with their game.

Kevin Brown, general manager for T & E Oil, says discounting cold beverages is not essential since sales are on "automatic pilot." "I never have to put any of my soda on sale. Even in the offseason there's still this mindset people have on soda and juices."

After a game, a T & E convenience store will get a carload or two of softball players in one or more of our stores," says Brown, whose closest store is located about eight blocks from the nearest softball facility.

Brown says the great thing about softball is its broad demographic composition. In Hutchinson, men between the ages of 18-50 are active sports enthusiasts, and women between 22-35 play. Brown says he capitalizes most on the 25-35 range, both male and female, in peddling soda, fruit juice and the newest rave, Gatorade dispensed from the fountain.

On the average, T & E Oil has six fountain heads per store for soda, which accounts for 60% of all cold beverage sales. T & E also has two juice dispensers and one slush machine per store.

Gatorade sales, riding the crest of its popularity with athletes, have soared at T & E. Out of the fountain, a large 44-oz. Gatorade costs 89¢, while a 16-oz. bottle goes for $1.09.

On a rotating basis, Brown promotes lemonade, cherry and orange-flavored juices. All fountain drinks are sold in cups that range in size from 16 to 44-oz. Even the 44-oz. offering sells well, even though it tends to warm up quicker in the heat.

One reason is an occasional promo Brown offers with the 44-oz. cup. For example, he sold a pair of neon sunglasses for 99¢ with the 89¢ purchase of a 44-oz. cup. He says this proved to be a natural tie-in for softball players, who need sunglasses to shield their eyes from the sun. Brown says he sells the sunglasses at cost, but notches a handsome profit on the sale of the 44-oz. soda.

Soda and juice purchases also help boost sales of particular impulse items, such as sunflower seeds, chewing tobacco and gum, which are popular items for this segment of the market.

There are some other companion items that automatically sell with soda, beer and juice—ice, for example, which Brown sells in a 16-oz. bag for $1.40, grossing more than a 50% margin. He says some days the demand for ice warrants a second delivery from the local ice vendor,

Also linked to cold beverage business are sales of 32-oz. plastic squeeze bottles, which retail for $1.39. Brown has found them to be popular with not only softball players and other athletes, such as bicyclists and runners, but with kids as well.

Another marketer thriving in the cold beverage department is Lykins Oil Co., Milford, Ohio. Lykins' strategy is to make money on soda, but more than that, to use soda as the vehicle to sell impulse and other C-store items, and to get people in its seven Friend's franchise C-stores. So far, it's worked like a charm. Although Jeff Lykins, who manages the C-store operation for the company, admits soda margins "aren't what they used to be," they're still holding their own.

One of the flashpoints came when Lykins decided about a year ago to offer a uniform price for all fountain sodas, which include Pepsi, Coke, Sprite, Dr. Pepper and a variety of fruit juices. All of the cup sizes, including 14, 16, 20 and 32-oz., now retail for 49¢. "It's important that we get our name out as the place where fountain soda costs 49¢ all the time."

He adds that "we pull people in because they see the sign that offers all fountain drinks for 49¢." This marketing strategy promotes sales of candy and potato chips, as well as deli sandwiches and chicken.

Of the four cup sizes, Lykins says the 20-oz. and 32-oz. account for about 35-40% of total beverage sales. Lykins has noticed that in a middle class town such as Milford, white collar workers tend to purchase the 20-oz. cup more often than others, and that improves his margins because he pays less for the 20-oz. cup than the 32-oz. "White collar workers tend to find a 32-oz. drink too dangerous a prospect for spillage while driving," Lykins says.

Lykins recently jumped on the bandwagon of a month-long promotion conceived by Pepsi-Cola and a local radio station, WBEN. A 44-oz. Pepsi with the station's logo on it sold for 99¢. Lykins, which paid 13¢ for the reuseable cup, offered customers a refill for 49¢ during the month. It was a spur-of-the moment decision that identified Friend's as the place to go for soda and also provided the company with a gross margin just below the industry average of 34%.

Lykins also has a perennial promotion going with its hard plastic Friend's mug. All refills of coffee, soda and juice are refilled at a discount rate: 12-oz. for 5¢; 20-oz. for 25¢; and 32¢ for 49¢.

One California independent refiner/marketer, Ultramar, tries not to spread itself thin in the C-store business, but rather concentrates heavily on such products as fountain drinks. Says Les Martin, who's in charge of the C-store operation, "We're trying to make sure that what we do, we do well."

Ultramar, an international oil company, bought Beacon a few years ago, and maintains that brand name in central and northern California. It has 115 company-operated Beacon C-stores extending from Bakersfield on the south to the Oregon border on the north. It will soon go statewide with 62 more stations/C-stores acquired from Conoco. Some 18 of these are in the Los Angeles and San Diego areas, where Beacon is not well known, and they will fly the Ultramar brand.

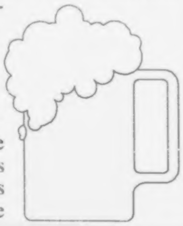
One example of Beacon's specialization is its soda fountain program. Stores have six or eight dispensing valves, generally, more at some stores, and offer a large variety of sodas. While McDonald's and others offer either Coke or Pepsi, but not both, Beacon sells Pepsi, Coke, Dr. Pepper, 7 Up, Gatorade, Orange Whip and diet versions of some, and even iced tea at some of the newer stores. The selection varies by store.

Says Martin, "In addition to carrying a greater variety, we're more competitive in price than fast food outlets."

Beacon carries many sizes: 12, 20, 32, and 44-oz cups. Insulated 32-oz. plastic foam cups sell for $1.99 on special, with the first fill free. A 32-oz. squeeze bottle sells on special for 99¢, with the first fill free. Refills are 99¢. Beacon even carries 11.25-in. straws, in addition to the usual 7.5-in., because regular straws are too short for the 44-oz. drink.

Beer

Sales of 16-oz. cans of beer—on ice—are hotter than a bowl of Texas-style chili for a franchisee of Friend's Inc., the San Angelo, Texas-based C-store chain. Friend's struck gold in October 1989 when it launched a beer promotion for one of its Friend's franchisees. It's now the toast of the town.



NPN'S CONVENIENCE

COMPANY	HQ LOCATION	C-STORE NAME
Acme Petroleum Fuel Co., Inc.	Gastonia, NC	Handy Pantry Food Stores
American Petrofina, Inc.	Dallas, TX	Finamart
Amoco	Chicago, IL	Food Mart
Arkansas Valley Petroleum	Tulsa, OK	Git-N-Go
Arco Products Company	Los Angeles, CA	am/pm mini market
Ashland Oil, Inc.	Ashland, KY	Superamerica
Aztex Enterprises	Knoxville, TN	Aztex Fuel and Food Centers
Bedford Valley Petroleum Corp.	Everett, PA	RG's Food Shops, Inc.
Berwick Bay	Morgan City, LA	Friends/Delta Mart
Best Oil Co.	Pittsburgh, PA	Toot-N-Scoot
BP America, Inc.	Cleveland, OH	Sohio/BP/Gulf Mart
Browning Oil Co.	Bowling Green, KY	Shell Food Marts
Campbell Oil Co.	Massilon, OH	Spee D Foods
Cannon Oil Corp.	Dothan, AL	Cannon
Casey's	Des Moines, IA	Casey's
Cel Oil Products Corp.	N. Charleston, SC	Unocal Mart
Cenex	St. Paul, MN	Cenex C-Stores/Townmart
Center Independent Oil Co.	Smock, PA	Sweet Peas
Certified Oil Co.	Columbus, OH	Certified Mini Marts
Champlain Oil Co.	South Burlington, VT	Colonial Deli Mart
Chevron Corp.	San Francisco, CA	Food Marts
Circle K Corp.	Phoenix, AZ	Circle K Convenience Stores
Citgo Petroleum Corp.	Tulsa, OK	Citgo Quik Mart
The Coastal Corp.	Houston, TX	Coastal Mart
Coen Oil Co.	Canton, OH	(various)
Colonial Oil Industries, Inc.	Savannah, GA	Enmark
Conoco, Inc.	Houston, TX	Conoco/Jet
Como Oil Co.	Duluth, MN	Milk House
Consumers Gasoline Stations	Nashville, TN	Scot/Consumers
Consumers Oil	Trenton, NJ	—
Convenient Food Mart	Rosemont, IL	Convenient Food Mart
Crown Central Petroleum Corp.	Baltimore, MD	Fast Fare/Zippy Mart
Crystal Flash Petroleum Corp.	Indianapolis, IN	CF Deli Bake
Cumberland Farms	Canton, MA	Cumberland Farms
Curt's Oil Co., Inc.	Muskogee, OK	Curt's
Dairy Mart, Convenience Stores, Inc.	Enfield, CT	Dairy Mart Convenience Store
Deblois Oil Co.	Providence, RI	D B Mart
Delta Group, USA Inc.	Mt. Pleasant, MI	Next Door Food Stores
Diamond Shamrock R & M Co.	San Antonio, TX	Diamond Shamrock Corner Store
Dickey Inc.	Packwood, IA	Dickey Prairie Home
Drakes Refinery Stations	Lansing, MI	Drakes Market Plus
Emro Marketing Co.	Springfield, OH	Speedway
Englefield Oil Co.	Newark, OH	Duchess Shoppe
Exxon Company, U.S.A.	Houston, TX	Exxon Shop
Farm & Home Oil Co.	Telford, PA	Farm & Home Corner Store
FKG Oil Co.	Belleville, IL	Motomart
Flying J Inc.	Brigham City, UT	Flying J
Foster Oil Co.	Richmond, MI	Sunrise Convenience Stores
Four Star Service Stations Inc.	Grand Rapids, MI	Four Star Service Stations & Stores
H.N. Funkhouser & Co.	Winchester, VA	Handy Mart
Gasco Gasoline, Inc.	Oxnard, CA	Gasco Mart
General Oil Co.	Batesville, AR	Quik Mart
Getty Petroleum	Plainview, NY	Getty Mart/Mr. Food/Hop-In/ Pen Supreme
Giant Industries, Inc.	Phoenix, AZ	Giant Food Stores
Golub Corp.	Schenectady, NY	Mini Chopper
Gresham Petroleum Co.	Indianola, MS	Double Quick
Harris Oil Company	Portland, OR	—
Hawaiian Independent Refinery, Inc.	Honolulu, HI	Express
Angus I. Hines, Inc.	Suffolk, VA	Sentry Food Marts
Barney Holland Oil Co.	Ft. Worth, TX	Jack B. Quick, Inc.
Horkey Oil Co., Inc.	Lubbock, TX	Friend's
Huck's Convenience Stores	Carmi, IL	Huck's Food Store
Hudson Oil Company	Tulsa, OK	Hudson
Hughes Energy, Inc.	Daytona Beach, FL	Sugarcreek
Hull Oil Co.	Panama City, FL	Jr. Food Mart (franchise)/Hull
Huntley Jiffy, Inc.	Orange Park, FL	Huntley-Jiffy Stores, Inc.

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*Diesel
**Only those directly owned & operated by UNOCAL
***Does not include UNOVEN stores

N/A—Precise figures not disclosed by company
N/C—No change
?—Plan to add C-stores, but exact number unknown

STORE SUMMARY

1988 TOTAL	1989 TOTAL	1990 CURRENT	1990 PROJECTED	ADDITIONS PROJECTED IN 1991	AVG. GASOLINE VOLUME PER STORE PER MONTH		SIZE SQ. FT.	
					MINI	FULL	MINI	FULL
N/A	50	90	?	?	N/A	N/A	N/A	
150	157	144	154	10	74,298	99,880	800	1,500
1,000	1,200	1,308	—	—	—	—	800	1,600
12	13	11	11	12	—	60,000	—	2,400/3,000
782	720	731	N/A	N/A	N/A	N/A		2,500
500	595	600	—	—	—	—		3,400/4,400
N/A	36	31	33	3	115,000	80,000	800/900	1,800
—	—	5	7	1	30,000	50,000		
39	40	43	46	3			400	2,800
13	14	15	?	?	100,000	100,000		
620	700	719	803	113	145,000	110,000	1,000	1,500
7	10	10	11	?	60,000	75,000	900	2,000/2,800
21	45	45	48	3	75,000	80,000		2,300/3,300
18	17	17	19	1	—	85,000		1,500/2,000
N/A	732	771	790	?	—	—	—	2,500
—	—	4	6	1	—	125,000		
155	225	262	270	35	40,000	55,000	800/1,500	1,600/2,400
N/A	4	4	4	?	—	—	—	—
7	16	20	?	?	—	—	900	2,000
47	53	70	72	2	50,000	50,000		2,400
3,896	3,936	3,800	?	?	N/A	N/A	350	1,200
4,097	4,658	4,664	?	?	100,000	42,000		2,600
15	15	16	N/A	N/A	125,000	175,000	900	1,800
900	850	850	N/A	—	54,276	49,898		2,000
—	—	15	—	—	50,000	25,000		
—	—	7	7	0	85,000	150,000		
486	477	500	?	?	120,000	120,000	400	1,200/1,600
—	—	7	9	2	—	40,000		
—	—	43	?	?	45,000	—		
—	—	2	4	2	80,000			
1,450								3,000
532	580	571	—	—	—	—	500	2,400
N/A	24	25	—	—	50,000	90,000		N/A
1,200	1,075	1,100	1,100	—	—	—		2,000/3,000
—	—	13	17	?	125,000	—		
—	—	1,250	1,400	150	—	35,000		
7	11	16	19	4	—	65,000		2,200
—	—	42	—	—	—	—		
529	617	654	694	44	75,001	91,641		1,200
—	2	2	2	0	—	60,000		
12	13	18	23	3	60,000	60,000	800	
675	1,600	1,665	1,720	55	103,823	144,941		3,375
42	53	51	61	10	—	84,000		1,500/2,000
375	450	562	N/A	N/A	N/A	N/A		1,100
8	8	4	6	2	100,000	120,000		1,200
33	38	40	44	4	—	110,000	400	2,200/2,700
31	35	35	36	?		95,000		2,400
N/C	13	15	17	—	80,000	150,000		
11	11	10	10	0	70,000	350,000	1,000	
7	8	9	10	1	—	100,000		2,200/2,400
10	10	10	13	?	100,000	150,000		
35	33	28	29	2		50,000		1,400/3,000
300	435	578	634	60	—	—	600/1,000	2,000
15	21	27	42	15	150,000	150,000		2,000
7	7	7	N/A	N/A	32,000			
24	26	28	—	—	—	—		2,400
—		5	6	1	110,000	100,000		
—	7	?	11	4	—	—	—	—
28	30	32	32	2	—	55,000		1,700
3	5	5	5	?	—	50,000		1,500/2,000
N/A	20	20	21	2	90,000	80,000		
90	95	100	105	7	—	—		
11	11	11	11	?	—	—	400/1,000	
12	14							
4	5	5	6	4	75,000	50,000	1,000	2,400
323	330	369	?	?	—	50,000		

Under the promotion, the C-store operator offers customers two 16-oz. cans of Busch beer for 99¢. What makes the promotion an outstanding success is that it was set up in what is predominantly a low-income, blue collar area. "In low-income markets, one or two cans of beer is all some people around here can afford to buy," says Dan Farmer, CEO for Friends, Inc.

The franchisee, who once subsisted on one to two cases of Busch a week, is now ordering upwards of 60 cases, (1,400 cans). Farmer says the C-store operator has enjoyed as much as a 28% profit. Gross revenues then top $700 a week and the store's gross profit is about $180.

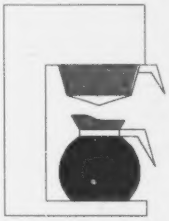
And future sales look just as bright, he says, despite a law recently passed in Texas that somewhat restricts open beer sales.

Farmer says one of the secrets to selling individualized beverages is to mount the can or the bottle on ice. It's a presentation technique that adds to the attractiveness of the product and exudes a feeling of cool, thirst-quenching delight.

Farmer admits that the beer promotion would not be as effective if the beer wasn't placed on ice. "When people see ice, especially in a hot part of the country like the Southwest, it gives off a soothing, cooling feeling," he notes. "The ice really makes the sale."

Coffee

New Englanders love their coffee, especially in the winter when the blast of a raw N'orteaster chills their bones. But even in what is traditionally off-peak coffee periods—spring and summer—coffee is a hot commodity. That's what East Hartford, Ct.-based Chucky's Country Stores has discovered.



Chucky's, operated by Aldin Associates, has 32 gasoline/C-store outlets located throughout Connecticut. The nucleus of the company's operating zone encompasses Norwich and New London, a fairly industrial, blue collar area located 90 miles southeast of Hartford. The two towns have a combined population of about 80,000.

Touting a two-brand lineup of Folgers and Sanka (decaffeinated only), Chucky's employees have watched coffee virtually sell itself to customers. Gross margins generally hover around the national average of about 68%, ac-

NPN'S CONVENIENCE

COMPANY	HQ LOCATION	C-STORE NAME
J&L Oil, Inc.	Vernon Hills, IL	J&L Food Mart
Jacobus Petroleum Products, Inc.	Milwaukee, WI	Jiffy Stop
Johnson Oil	Columbus, IN	Bigfoot
Kerr-McGee Refining Corp.	Houston, TX	Kerr-McGee Food Shop
Kimber Petroleum Corp.	Madison, NJ	Kwik Pik
Kocolene Oil Corp.	Seymour, IN	Kocolene Fuel/Food Marts
Krause Gentle Corp.	West Des Moines, IA	Kum & Go
Kunz Oil Co.	Edina, MN	Peoples Plus
Kwik Shop, Inc.	Hutchinson, KS	Kwik Shop, Inc.
H.C. Lewis Oil Co.	Welch, WV	Kwik Serv Food Marts
The LYDEN Co.	Youngstown, OH	Fast Chek Food Marts, Inc.
Mapco Petroleum, Inc.	Tulsa, OK	Delta Express
Martin Oil Marketing, Ltd.	Alsip, IL	Martin Mini Marts
McDowell Oil Service, Inc. Time Markets, Inc.	Milton, PA	Time Marketers, Inc.
McLeieer Oil Service, Inc.	Kalamazoo, MI	Food Port Marketing
Mid-Continent Systems, Inc.	West Memphis, AR	CMI
Mid-Missouri Oil Co. dba Jiffy Stop	Kaiser, MO	Jiffy Stop
Mid-States Petroleum	Troy, MI	Mid-Mart
Miller Enterprises, Inc. dba Handy Way Food Stores	Cresent City, FL	Handy Way Food Stores
Miller Oil. Co.	Norfolk, VA	Miller Mart
Mini Mart, Inc.	Casper, WY	Mini Mart, Inc.
Missouri Terminal Oil Co.	St. Louis, MO	Midco
Mobil Oil Corp.	New York, NY	Mobil Mart
Munro Petroleum & Terminal Corp.	Biloxi, MS	MP Food Stores
Murphy Oil USA, Inc.	El Dorado, AR	SPUR
Musket Corp.	Oklahoma City, OK	Love's Country Stores/ Love's Travel Stop
National Convenience Store	Houston, TX	Stop-N-Go
National Oil & Gas Inc.	Bluffton, IN	(various)
Neal, Inc.	San Antonio, TX	One Stop Food Stores
Nella Oil Co.	Auburn, CA	1 Stop Convenience Food Stores
Pacific Northern Oil Co.	Seattle, WA	Panoco
Pal Oil Company, Inc.	Palmyra, NY	Palmart
Parker Oil Co., Inc.	South Hill, VA	—
Patterson Oil Co., Inc.	Torrington, CT	PATCO Handy Shop
PDQ Food Stores, Inc.	Madison, WI	PDQ Food Stores, Inc.
Petroleum Marketers, Inc.	Roanoke, VA	Stop In Food Stores, Inc.
Petrotex Marketing, Inc.	Midland, TX	Friends Convenience Stores
Phillips 66 Co.	Bartlesville, OK	Phillips 66
Piasa Motor Fuels, Inc.	Alton, IL	Piasa Pantry
Pilot Oil Corp.	Knoxville, TN	Pilot Foodmarts
Pride Oil Co. Inc.	Columbus, MS	Pride Pantry
Pride of Texas Dist. Co.	Arlington, TX	One Stop/Sack N' Sack/Pride Foods
Private Brand Services, Inc.	Cadillac, MI	P.B.S. Party Store
Promana, Inc.	Honolulu, HI	Express Mart
Purity Oil Co.	Tulsa, OK	Fastop Stores
Quality Oil Co. I, Ltd. Partnership	Winston-Salem, NC	Quality Mart
Quiktrip Corp.	Tulsa, OK	Quik Trip
Racetrac Petroleum, Inc.	Atlanta, GA	Racetrac Petroleum Inc./Multi Store
Red Hed Oil Co. Inc.	Richmond, KY	Redi-Mart
Republic Oil Corp.	Woodland Hills, CA	Dixxie Mart
River Oil Company	Memphis, TN	(various)
Robinson Oil Co. Inc.	San Jose, CA	Mrs. Robbie's Foodstore/ Mrs. Robbie's Snackspot
Royster Oil Co. Inc.	Shelby, NC	RoCo Food Stores
Russell Petroleum Corp.	Montgomery, AL	KwikShop Food Stores
Sahara Oil Co. Inc.	Phoenix, AZ	Rebel Quik Mart
Save-X, USA, Inc.	Roanoke, VA	Save-X Mini Mart
SCASCO	Winsted, CT	(various)
Schaeffer Oil Inc.	Winner, SD	"Lil Feller"
Shay Oil Co. Inc.	Yuma, AZ	Shay's Mart
Shell Oil Company	Houston, TX	Shell Food Mart
SICO Co.	Mount Joy, PA	Sicoserve
Sing Oil Co.	Thomasville, GA	Sing Food Stores
Smith-Shafer Oil Co.	Rockford, IL	—

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*Diesel

**Only those directly owned & operated by UNOCAL

***Does not include UNOVEN stores

N/A—Precise figures not disclosed by company

N/C—No change

?—Plan to add C-stores, but exact number unknown

STORE SUMMARY

1988 TOTAL	1989 TOTAL	1990 CURRENT	1990 PROJECTED	ADDITIONS PROJECTED IN 1991	AVG. GASOLINE VOLUME PER STORE PER MONTH		SIZE SQ. FT.	
					MINI	FULL	MINI	FULL
26	31	24	29	6	70,000	100,000		2,000
	12	13	14	1	60,000	70,000		
		50						
—	—	43	?	?	—	—		
N/A		3	6	?	150,000	150,000		
—	—	20						
N/A	137	137	149	15	—	36,000		
15	15	1	0	0	—	—	1,000	2,700/4,500
N/A	210	210	211	3	—	45,000		
N/A	4	4	5	1	—	50,000		
45	54	70	75	7	45,000	75,000		1,400
265	310	339	?	?				1,800
41	41	43	?	?	—	—	140,000	2,000
28	30	30	30	0	—	70,000		2,500
2	2	2	4	2	—	40,000		2,000/3,500
—	32	27	27	0	—	20,000		
7	8	12	?	?	—	60,000		1,200
18	32	32	38	11	130,000	130,000	800	2,500
141	141	143	151	8	—	—		2,400
N/A	21	35	39	6				N/A
116	117	117	119	122	—	45,000		2,400
		24	29	?	87,000	34,000		
800	N/A	N/A	N/A	N/A	N/A	N/A	600	N/A
N/A	41	34	?	?			1,000	1,200/1,400
		173	190	—				
100	119	123	132	11				1,800/4,000
1,200	1,099	1,099	1,102	N/A	—	N/A		2,400/3,090
24	28	28	33	5	40,000	80,000		
30	25	25	—	—	—	40,000	500	3,500
21	27	27	30	—	—	150,000		2,400
—	2	2	3	?	—	100,000		
6		9	12	3	96,000	60,000	1,000	2,200
—	30	30	33	3	—	60,000		
6	8	8	10	2	85,000	105,000		N/A
N/A	105	99	111	12	—	—		N/A
—	54	54	58	4	80,000	70,000	1,000	1,800
18	20	20	23	3	N/A	N/A		
136	159	190	?	?	—	—	800	
6	9	9	11	2	60,000	50,000		
115	72	52	?	?				2,200/2,500
N/A	7	7	8	9	—	35,000		
21	27						900	2,600
1	1	1	1	0		120,000		
—	10	10	?	?		120,000		
—	14	14	17	4	80,000	100,000		
24							200	2,200
252	255	279	309	?	—	—		3,200
N/A	268	168	?	?				
N/A	8	6	8	?	60,000	50,000		
1	4	4	1	?	200,000*			
2	3	3	3	1				1,500
7	7	7	10	3				
19	19	19	21	2	30,000	30,000		2,400
15	17	19	22	4	—	—	1,400	3,000
N/A	6	6	8	2	—	100,000		
—	10	10	11	2	55,000	27,000		
N/A	10	10	10	?	50,000	65,000		
3	6	6	6	0	—	40,000		2,500
N/A	13	20	22	2	100,000	100,000		
1,100	1,164	N/A	N/A	N/A	N/A	N/A	800	1,000/2,600
7	10	10	13	3	92,500	125,000		
52	55	55	—	—	—	—	1,000	2,700
—	5	5	6	3	125,000	—		

cording to Jeff Leedy, marketing manager for Aldin Associates.

Leedy says the ingredients used to make the company's coffee sales strong include outlets in high traffic areas, preferably near where people work, and having reputable brands of coffee to sell. Nothing new here, he says, Chucky's coffee sales have always been brisk.

But coffee won't sell if its not done properly. The slightest deviation in blends or brands can instantly alienate a whole community of coffee customers, he explains. "The allegiances and brand-loyalty of coffee drinkers is very high, and that's something we bank on," says Leedy.

Chucky's dispenses it coffee from a self-contained 5-ft. by 5-ft. coffee island that churns out freshly-brewed coffee packaged in 1.7-oz. packets. The company uses glass urns (two per store to improve accessibility), a method that is "probably the sizzle that sells the product," Leedy adds.

Using glass urns, although requiring more labor (i.e., cleaning pots and filters, making fresh cups every day), works better because it lets customers see what they are pouring and enhances their trust in the product.

The marketing of whole-bean coffee, complete with do-it-yourself grinding and flavor-of-the-day specials has been a hit for Gasamat Oil Corp., a marketer operating in eastern Colorado.

According to Terry Gallagher Jr., retail operations manager for Gasamat, the program, instituted when his 3,500-sq.ft. C-store opened last year in a high-tech, high-rent area of East Boulder, has racked up impressive gross margins of 70-80% on individual servings. They've also achieved about a 28% ($1.67 per bag sold) margin on their bulk program, where customers grind their own beans after purchasing bags of coffee for $5.99/lb.

Gallagher offers a dozen varieties or flavors of gourmet whole-bean coffee, including vanilla, chocolate mocha and an Irish blend. The flavors have piqued the interests of customers enough that some come into the store just to see what the flavor of the day is, Gallagher says. The standard offering is Gallagher's Colorado blend. It is a regular blend coffee which is a step above other regular coffees. That's because it is supplied by a local coffee supplier named "Allegro," says Gallagher, and offers a deep, rich taste.

NPN'S CONVENIENCE

COMPANY	HQ LOCATION	C-STORE NAME
Sugarcreek Corp.	Rochester, NY	Sugarcreek Stores
Sun Refining & Marketing Co.	Philadelphia, PA	Stop-N-Go
Sunshine Jr. Stores Inc.	Panama City, FL	Sunshine-Jr. Food Stores
Taylor Oil Co.	Winston-Salem, NC	Etna Food Stores
Texaco, Inc.	Houston, TX	Food Mart
Thornhill Oil Co., Inc.	Fort Wayne, IN	Amoco Food Shops
Thornton Oil Corp.	Louisville, KY	Thornton Gas & Food Mart
Time Saver Stores Inc.	New Orleans, LA	Time Saver Stores, Inc.
Tooley Oil Co.	Sacramento, CA	Shell Food Marts/Tooley's Mart
Total Petroleum, Inc.	Denver, CO	Total Mart/V Mart/ Road Runner/A Mart
Transit Oil Co.	Louisville, KY	Transit Mart
Ultra Power Corp.	Monticello, NY	Ultra Mart
Ultramar, Inc.	Hanford, CA	Ultramart
United Refining Co.	Warren, PA	Kwik Fill/Red Apple Food Mart
UNOCAL Corp.**	Los Angeles, CA	Self Serve Marts
Vista Marketing Group, Ltd.	Rockford, IL	Vista
Wake Up Oil Co., Inc.	Indianapolis, IN	Mini Snack Shop
Warelubco, Inc.	Jacksonville, IL	Wareco Country Stores
Warren Equities, Inc.	New York, NY	Xtra Mart
Welsh Oil, Inc.	Merriville, IN	(various names)
Western Marketing, Inc.	Abilene, TX	Wes-T-Go, Inc.
Westgate Oil Co.	Muskegon, MI	WESCO/ Good Neighbor Convenience
A.T. Williams Oil Co.	Winston-Salem, NC	Wilco Food Marts
J.H. Williams Oil Co., Inc.	Tampa, FL	76 Mini Marts, Inc.
The Wills Group, Inc.	La Plata, MD	Dash In Food Stores, Inc.
Wooten Oil Company	Goldsboro, NC	Kwik Mart
York Oil Co. Inc.	Hampton, VA	Easy-Go Stores

Somewhat unlikely, but a real boon for business, is the fact that Gallagher sells gourmet and regular coffee for the same price. For instance, a small 12-oz. coffee, gourmet or regular, can be had for 29¢; a 16-oz. for 49¢; and a 20-oz. for 59¢. Gallagher also has a 12-oz. Club Mug which offers unlimited refills at a discounted rate. Gross margins on individual coffee servings range from 22¢ to 44¢ per cup.

The store, called "Gallagher's," has thrived coffee-wise since the day it opened. That was assured through an intensive study of the area and other demographic factors that told management what the Boulder consumer wanted in a coffee program.

Chicken

While fried chicken remains a high-cost, labor-intensive hot potato for most jobbers, at least one Michigan marketer is watching his chicken sales go through the hen house roof.

Originally geared up to do about $100-$250/day in sales, Mooney Oil Co. in Lansing, Mich., today sells $1,200-$1,600/day in chicken through its expanded facilities, says Terry Hardin, vice president of operations for Mooney Oil.

Though presently selling through only one outlet, plans are being laid to either franchise their spicy recipes and/or introduce the chicken in two other locations.

When the company started its chicken operation about three-and-a-half years ago, they displayed their chicken in a glass bin that was part of an extended cashier island.

Sales exceeded their expectations, but the company also wanted to figure out how to maximize their profits, so it shut down the operation for nine months. While the operation was closed, Hardin says the company lost the $30,000-$40,000/mo. in chicken sales, in-store sales dropped 20-30% and gasoline sales declined 10-15%.

The store underwent a complete redesign. The chicken operation became a separate entity with its own manager and sales space adjacent to the C-store. With the new setup, the chicken facility could be properly cleaned and employees could be well-trained, Hardin says. He adds that before the redesign, it was hard to mix the chicken and C-store operations, with chicken sales inevitably slowing down sales at the C-store.

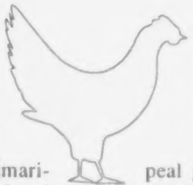
Security also influenced the store's redesign. With the neighborhood in a state of deterioration and high crime,

STORE SUMMARY

1988 TOTAL	1989 TOTAL	1990 CURRENT	1990 PROJECTED	ADDITIONS PROJECTED IN 1991	AVG. GASOLINE VOLUME PER STORE PER MONTH MINI	FULL	SIZE SQ. FT. MINI	FULL
N/A	100	100	110	10	70,000	70,000	N/A	2,000/2,500
485	620	742	N/A	N/A	—	—	300	2,000/2,400
309	315	308	333	25	—	27,000		1,800/3,000
56	55	55	57	2	114,000	114,000	900	2,400
900	1,705	1,150	1,319	75	145,000	155,000	1,000	1,800
11	22	23	25	3	90,000	100,000		1,000
N/A	75	79	89	?	—	—		
139	139	136	—	—	—	30,000		3,200
7	8	7	8	?	175,000	240,000	200/800	
470	535	604	619	12	140,000	140,000	800	1,500
7	15	15	15	0	—	—	800	
4	4	3	5	2	15			1,500
120	114	150	—	—	—	—	600	1,600
110	110	351	?	?			700	1,500
2,500	2,500	1,924***	?	?	N/A	N/A	500/1,000	2,200
4	6	6	8	2	100,000	175,000		
5	5	7	9	?	100,000	75,000	280	2,500
N/A	72	63	73	12	—	—	900	2,400/2,600
87	101	101	110	7	91,000	66,000	1,000	1,500
27	28	28	?	?				2,400
N/A	11	12	12	1	—	65,000		
28	28	28	28	?	125,000	125,000	1,000	2,000
83	88	91	?	?	—	100,000	800	2,400
6	6	6	8	4	100,000	150,000		1,400
32	32	36	43	?	125,000	110,000		2,400
N/A	23	23	25	2	50,000	70,000		
N/A	10	10	10	0	88,000	75,000		

both the chicken facility and the C-store adjacent to it are enclosed behind a thick wall of bulletproof glass. Customers walk down a 25-ft. hall, peering through the glass first at the chicken outlet and then in the C-store to check out what they want to buy. Hardin says the setup also provides a safer, less intimidating environment for employees.

Besides developing the security system, the company also improved on what it calls its "Original Goood [three o's] Chicken." Taking the "Henny Penny" recipe to begin with, the company added hot spices to their chicken and potato wedges. Hardin says the spicy chicken is much more popular than the regular chicken among area customers.



The outlet is located in a primarily African American neighborhood near downtown Lansing. To avoid stereotypes, Hardin points out that all ethnic groups eat fried chicken, but customers around the Mooney Oil location tend to prefer the spicier offerings.

Estimating startup costs, Hardin says fryers, fryer ventilation units, display bins and automatic "breaders" for the chicken (to ensure even breading) can run between $40,000-$60,000.

So chicken does appear to live up to its reputation as a high-cost, labor-intensive diversification. But by going full-steam ahead, Mooney Oil has overcome the initial obstacles and turned it into a money maker.

Even though it sits in the shadow of a national fried chicken chain, Lykins Oil Co., Milford, Ohio, has found a way to make its fried chicken program a profit center.

With a Kentucky Fried Chicken within spitting distance from one of his southern Ohio stores, Lykins Oil is appealing to the one-stop, pre-dinner shopper to make its chicken program successful. It has worked well, to the tune of $450/day in sales in the company's top outlet.

The one-stop shopping appeal gets customers into the store, says Jeff Lykins, who manages C-store and fast-food operations for the company his father owns. The aroma of the fried chicken does the rest.

So, with quality and competitive pricing to match that of the major chains, Lykins gets extra sales via the "one-stoppers," who will pick up some staples on their way home from work, gravitate toward his chicken counter and pick up a chicken dinner (a 21-piece meal costs $16.99) for the family. "Our stores are bright, spacious and cheery, and that helps as well," says Lykins.

Lykins Oil now has chicken at three of its seven C-stores. All three are located in areas where people work—industrial parks, small businesses, etc. Consumers prefer to stop at C-stores close to their workplace, Lykins finds, as opposed to where they live.

The labor factor scares some marketers, but it hasn't discouraged Lykins, whose $450/day in chicken revenues offsets the labor cost. That figure has also been enough to cover the cost of the two-day training period that Lykins requires of his employees. The cost of labor per store is about 1-1/2 extra persons per day. At about $5/hr., that comes to $60.

"We do $450/day in one store and another store has done as much as $500/day," says Lykins, who pays 91¢/lb. for a whole fryer. "Chicken is labor intensive, but the sales pay for the labor.

"We use the Chester Fried Chicken program, and the batter is consistent and good. We fry and marinate our chicken, and the breasts seem to have twice the meat (as some competitors' products). We have regular and cajun breading and sell potato wedges and curly fries on the side," Lykins points out.

On weekends, chicken sales flounder, Lykins says; therefore, he doesn't even bother to turn on the equipment. It's further proof that his true customer base is the weekday workforce from a nearby industrial park.

The only problem Lykins had was selling chicken wings, the least popular part of the chicken. He solved that by creating a homemade hot sauce recipe and selling "hot" wings. Customers took to them almost immediately.

More tips on chicken:

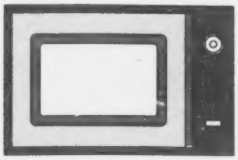
- Make sure to install the equipment when the store opens, not later on, says Jeff Leedy, director of marketing for Chucky's Country Stores. It costs more to retrofit.
- Install cooking equipment in full view of customers to gain their trust.
- Cut the chicken in sections of eight instead of nine (as some chicken chains do) to make them look larger.
- Be creative with excess product. One operator found that unsold chicken can be converted into chicken salad and sold, as the operator put it, "dirt cheap," or about $1.99/lb.

Microwaveable Foods

Hurried and harried Philadelphians who care about nutritional value but don't have time to slave over a hot stove caught a break in September 1989.

That's when Wawa, Inc., the eastern Pennsylvania-based C-store giant (476 stores) unveiled a chilled dinner concept called "Fresh Buffet" to a limited 10-store test market area in metropolitan Philadelphia.

Test market customers gave Fresh Buffet the highest marks for low calorie content, economy and taste appeal. First, the consensus was that the meals taste much better since they are never frozen and contain no preservatives. Also popular with the test group was the fact that three of the meals contain less than 300 calories and that none cost more than $3.99 per serving.



But the real clincher for the fledgling product was the convenience aspect. Ed Burcher, product planning manager of prepared foods for Wawa, says the company found that 90% of all households in the Philadelphia area have microwave ovens—10% more than the national average. What's more, 98% of those surveyed during the market study said they own a microwave. This high percentage of microwaves was the opportunity Wawa needed to roll out Fresh Buffets system-wide. Customers can also use in-store microwaves if they prefer.

Other demographic factors didn't affect the decision to expand Fresh Buffet's coverage as much, Burcher says, because the entree appealed to all people. "We have stores near industrial parks, suburban stores, white collar areas, blue collar areas, you name it," says Burcher. "Lifestyle is what made it go. It is ideal for consumers on the run, basically single men and working mothers with families, who don't have the time to prepare meals." Because Fresh Buffets are chilled, and not frozen, the microwave cooking time is cut from seven to three minutes, Burcher says.

The Fresh Buffet line, which features 20 meals in all, is packaged in a vacuum-sealed plastic tray in an overwrapped box with an illustration of the particular meal on the front of the box. Entrees include such delicacies as Chicken Mornay, Lasagna Bolognese, Shrimp Creole, Country Style Pork with Stuffing, Chicken Mexicana and Beef Teriyaki. To keep certain entrees in demand, Wawa rotates 12 of the 20 meals on a weekly basis. Eight are always available.

In evaluating other customer traits, Burcher discovered that during the mid-morning or early afternoon, most customers brought Fresh Buffets back to the workplace, where microwaves are now frequentlly standard appliances. Microwaving at the store, on the other hand, was more popular among blue collar workers and traveling salesmen who didn't have access to an office.

Wawa plans to expand its new chilled dinner line to all of its 470 stores next year.

Deli, Fast Food

Operating a successful deli bar in a convenience store takes planning, merchandising skill, quality products and an awareness of local tastes. A little imagination doesn't hurt either. But the payoff's worth it—typically almost twice the unit gross margin over other product categories.

Some of the best delis in the business are run by White Hen Pantry, a 380-store chain based in Elmhurst, Ill., which operates in three Midwest and two Northeast states.

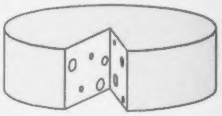
White Hen has undertaken a major revamp of its fast-food/perishable sections throughout its network; bringing previously scattered deli, fresh produce, baked goods, fountain drinks and coffee service departments into one compact alignment extending along one wall from the cashier's counter. Entrances have been moved from the center to this side wall. This, plus the placement of the milk cooler in the corner, moves customer traffic past the food/drink displays where eye appeal and aromas can work their magic.

White Hen's 8-ft. deli cases feature tempting displays of a variety of fresh Vienna meats, cheeses, salads and trimmings. All sandwiches are prepared by hand by store personnel from the deli case. Local ethnic tastes are also targeted—hot peppered cheese in a Spanish community, for example, or lox in a Jewish neighborhood.

"We have fantastic sales on sandwiches," says Karen Gruesen, White Hen merchandising specialist. The sandwiches retail for $1.99 regular size and $2.99 for double size.

The sandwiches and deli items are promoted by lighted menu boards above and behind the deli case. The boards also display full-color photographs of featured items.

Party trays are another recent merchandising innovation. Many stores now offer a variety of customized trays featuring meats, cheeses, vegetables, snacks and cookies for neighborhood gatherings, sporting events and the like. A buffet meat and cheese tray, for example, includes ham, roast beef, chicken roll, corned beef, sliced American, Creamy Brick and Swiss cheese, potato salad or baked beans and large ripe olives. Serves eight to 10 folks for $19.95.



White Hen also offers 3-ft. Italian or American "Super" party loaves for $39.95. The party items can be delivered the same day of the order. White Hen promotes its party business with pass-out full-color brochures in the store.

White Hen does a big business in "perishables," with about half of the sales volume in many stores derived from deli, fresh produce, bakery, etc., according to Gruesen. Deli gross margins are about 60%. This gives the company a gross margin between $1.20 and $1.80 on each sandwich sold.

Promoting deli products is also paying off for Denver-based Gasamat Oil Corp. Last year, Gasamat, a traditional self-serve gasoline marketer, opened a 3,500-sq.ft. C-store and gasoline facility in a shopping center in Boulder, Colo. The store—called "Gallagher's" to tone down the "gas" connection—has a full-service deli with seating for 25. The customer base includes 7,000 high-tech office workers in a nearby office complex, plus transit and neighborhood traffic.

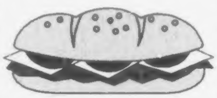
Gallagher's uses advertising, couponing and direct mail to hustle up deli business. At the outset, the company mailed out deli menus to offices in the area and installed a fax machine to take deli orders. A followup mailing is planned for the near future, according to Gasamat's Terry Gallagher Jr.

"The fax has worked well," says Gallagher. "We get some big sandwich orders with it, up to a $100 on occasion. However, most of the orders still come through by phone."

To appeal to its white collar clientele, Gallagher's serves a variety of made-to-order sandwiches. The big seller is a char-broiled bratwurst, retailing in two sizes for $2.49 and $3.49. The number two favorite is a Chicago-style hot dog for $1.49. Number three is an Italian submarine selling for $2.49 (6-in. size) and $3.49 (9-in.).

The Italian subs are especially popular during the football season, when Gallagher's packs the sandwiches in a "Buff Box" for Univ. of Colorado Buffalo football fans. "We also promote the catering of luncheons during the football season," Gallagher says. The store advertises a special 28-in. "tailgate" submarine loaf for $9.99.

Couponing has also been very successful in promoting Gallagher's food and drink. The company works closely with vendors to develop tie-in product promotions, frequently getting discounts on product or coupon costs to help defray the costs. "A normal return on a coupon promotion is about 3-4%," Gallagher says. "We've been getting 20% returns."



The deli is open from 6 a.m. to 9 p.m. Wrapped sandwiches are stored in a cooler for the overnight trade.

Total deli gross margins are averaging about 45-50%, Gallagher reports. Deli sales range between $15,000-$20,000/mo. "We're working hard to get the margins up," he says. "As you know, delis are very labor intensive."

Delis are a strong part of Rockford, Ill.-based Smith Oil Co.'s C-store merchandising.

Employees arrive early every morning to prepare the day's cut-meat sandwiches, subs, croissants and baked goods. Its bakery handles fudge, cookies and fresh rolls, says Roger Breeland of Smith Oil.

Each of his five locations has an oven, with some having "proofers" to raise bread dough. His locations also have microwaves for customers to warm up their purchases.

Breeland says that while it doesn't take a brain surgeon to run a deli, certain rules to ensure uniformity are enforced. He relies on his manager to make sure employees are trained properly.

"People tend to be more generous when they make sandwiches," Breeland says. "So while you don't want to gyp the customer, you don't want your employee making a $3 sandwich and selling it for $2."

Breeland says the company is redoing one location, putting in a new bakery case and a reach-in deli case. He says that customers may be more inclined to buy when they can serve themselves.

With 10 C-stores, many in relatively small towns in California's agricultural San Joaquin Valley, Moore Petroleum, an Exxon distributorship based in Banta, does well with fast foods: hot and cold sandwiches, a breakfast sausage-egg sandwich, hot dog and microwave products, all prepackaged.

Jerry Moore stresses buying and selling the best quality of fast foods available. He buys from several different suppliers, sometimes changing from one to another to get the best.

Moore's breakfast is relatively new, about a year and a half old, and it took off right away. "Some of the fast-food chains pioneered the concept, and we just went that way, too," he says. He sells coffee, sausage-egg, sweetrolls, donuts and a large assortment of baked products. Every morning everything is fresh.

For fast foods, freeway locations are better than in-town locations, he says. In neighborhoods where there's not a lot of competition, groceries go best.

Additional deli tips, from industry sources:

- The optimum number of sandwich varieties at a deli appears to range from seven to twelve.
- Food service sandwiches sell best on Monday and Friday.
- Keep your perishable product displays, including sandwiches and deli, looking full "round the clock"—not just at peak hours.
- Deli operators either slice or shave their meats. When cut into thin slices, meat appears more one-dimensional. Shaving makes the sandwich appear larger and the customer thinks he is getting more for his money. Shaving also lends more flavor to the meat, operators agree.
- Make sure you give fast foods maximum visability and visual impact. Give it your best spot and make it look exciting and inviting.

Hot Dogs

Fleming Petroleum Inc., Pittsburg, Kan., is letting the All-American mystique surrounding hot dogs and the ethnicity of polish sausage weave their merchandising spell in one of its new C-stores, located in Kansas City, Kan.

According to Ed Roitz, president of Fleming Petroleum, which owns or supplies 14 gasoline station/C-stores in eastern Kansas, hot dogs have no peer when it comes to their almost universal appeal.

At its Kansas City outlet, which opened in the spring of 1989, the 50¢ price Roitz charges for a hot dog is an attractive bargain for customers. He offers a pure beef dog that is the same standard size sold in baseball parks—usually at more than twice the price. Roitz has the traditional transparent hot dog carousel where the dogs are wedged onto a spindle and rotate on a roller device. A heat lamp keeps them hot and fresh. If one wants a step up in gourmet hot-dogging, the polish dog is sold for $1.29 and is about one-third to one-quarter bigger.

Roitz has found that an onslaught of new developments in Kansas City, a diverse manufacturing town with a middle income, blue collar demographic profile, has brought construction crews out *en masse* to area fast-food shops and C-stores at the noon hour.

Roitz says it's not uncommon to see a group of construction workers frequent the hot dog station in his 3,000-sq.ft. C-store. "Construction workers will pick up a hot dog or a polish and a bag of chips and away they go," says Roitz. "Hot dogs are very economical and not very labor intensive. With the way we chose to market them, which is a very basic process, the cost is virtually nothing."

Small and easy to handle, hot dogs are also popular for consumers who like to eat on the go, like traveling salesmen or zone managers.

Roitz says the "dogs" have definitely helped bolster his overall C-store sales, which as of July 1990 were in the $50,000-$60,000/mo. range.

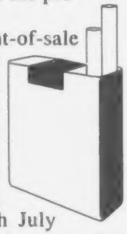
Cigarettes

Newly-furnished promotional displays and point-of-sale signage have been the one-two punch Paul Schmuckal, president of Schmuckal Oil Co., Traverse City, Mich., needed to get his cigarette sales over the hump.

Marketing in a predominantly resort

community (17,000 population) and including some local industry, commercial and farming clientele, the company is located 100 miles south of Mackinac Island. Schmuckal says cigarette sales began to turn for the better after two national tobacco companies stepped in to help out

Schmuckal, a Shell Oil jobber, says in late 1988 cigarette sales in some of his 16 Shell Food Marts were showing a decline, with one store bottoming out with a 10% decrease from the previous quarter.



With the help of point-of-sale signage from Marlboro (mostly outside) and promotional displays (mostly in-store) from R.J. Reynolds, Schmuckal turned around his negative cigarette sales over an 18-month period through July 1990. His most unproductive store, for example, turned that 10% loss into a 10-15% gain over the period, a nifty turnaround of 25%.

The POS signs furnished by Marlboro were used as pump toppers and C-store counter displays. Permanent plastic promotional floor and counter displays were furnished by R.J. Reynolds Co. These displays featured an added merchandising ploy.

First, the displays allowed Schmuckal to sell cigarettes in two and three-pack units. This appealed to smokers who wanted to purchase more than a pack but less than a carton. But the kicker was a giveaway program, which offered a choice of a free blank video cassette tape, T-shirt, cigarette lighter or baseball cap to anyone purchasing the R.J. Reynolds brands. Another option was a free pack of cigarettes.

To date, Schmuckal has installed both the signs and the displays in 12 of his 16 Shell Oil Food Marts. In those outlets, the combination of signs and diplays produce better sales than in those stores with just one of the other.

"I found that the signs alone don't really work, but that the displays alone do produce sales. On the whole, using both signs and displays works best," says Schmuckal.

Lottery and Videos

The first step in successful merchandising of lottery tickets and video rentals is a careful analysis of trading area demographics—specifically the economic level of the community and the size of the town.

Take lottery tickets, for example. John Gerlesits, vice president of operations for Sweeney Oil Co., says "lottery sales in lower income areas always do better."

Lottery outlets pay an "insignificant" installation fee, Gerlesits says, and these outlets (or agents) receive 5¢ on the dollar for each ticket sold.

Lottery can be a big traffic builder. Gerlesits says traffic increases significantly when the lottery jackpot rolls over into the $25-million to $40-million range.

Gerlesits was surprised when marketers in one southern state wanted to take lottery out of their stores, because it attracted too many people. "Is a customer an interruption of their day?" he asks in disbelief.

Gerlesits says lottery is an important part of Sweeney's business, and all six of their locations carry it.

Lottery has always been a staple with Smith Oil Co. of Rockford, Ill., and its five Midwest locations.

Roger Breeland of Smith Oil says the state lottery commission is "very good" about advertising and offering different games to keep people's interest high. In Illinois, an agent can carry on-line machines for weekly and daily jackpots, as well as card rolls for rub-off rewards.

The only drawback Breeland sees is the complexity of the on-line games, where customers can "box" numbers for extra winnings and or enter numbers of their own choosing. This complexity eats up checkout time and can prolong employee training.

Meanwhile, in the area of video rentals, Breeland finds rental success in towns between 1,000-2,500 in population, areas where the big video chains have not reached.

He has an outside firm come in to handle the videos. They change the selections periodically and collect a commission. Breeland gets a part of that action as well.

Breeland says what marketers end up with is zero investment dollars and both a cut of the rental income and increased traffic.

Acknowledging the influx of big video rental chains, Breeland admits that rentals at his outlets in larger communities have suffered.

Gone With The Wind

Sweeney Oil, too, at one time tested videos, but Gerlesits says the company backed out when the big video chains invaded the market.

In those smaller communities, however, video sales are still going strong, Breeland emphasizes. And with no expense to his company, Breeland maintains a healthy traffic-building profit center.

With the right location and a minimum of big league competition, video business can be profitable. "Videos are also a natural for tie-in sales," says one Midwest marketer.

Marketers have the option of purchasing video stock outright—and taking all the profit—or signing up with a vendor for a cut of the proceeds.

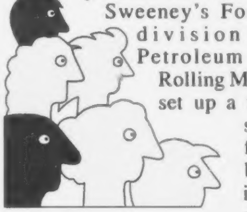
A purchase arrangement might cost $8,000-$10,000 for a startup inventory of 200 titles (mostly older movies in a typical jobber outlet) and higher if new releases are included (at about $70 a pop). Once the initial investment is written off through rentals, income is mostly pure profit.

To avoid the high upfront cost, many jobbers prefer to work with vendors. A typical deal might give a marketer 30% of the income from the first 200 movies rented each week and 50% of each rental after that.

Focus Group

Want to know what your customers really think about your C-stores?

Why not ask them? Better yet, organize a "focus group" session and invite a random selection of customers in to do an in-depth analysis of your stores' products and services

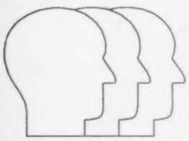


Sweeney's Foodworks, a division of Omni Petroleum Co., Inc., Rolling Meadows, Ill., set up a focus group session last fall to get a better reading on how customers viewed its Franklin Park, Ill., prototype store. The session produced some interesting insights into the store's operation—and a couple of surprises, to boot.

"It's a great opportunity to find out what your customers expect from your store and how they feel about the service you provide," says Mary Adkins, advertising coordinator for Sweeney's, who helped set up the focus group.

Sweeney's experimented with two types of focus sessions: an existing customer group and a group of people selected randomly from the store's trading area. "By far, the customer group was the more effective approach," Adkins says. "They're easier to lure into the session and they're more familiar with the products and services you offer."

Customer names and phone numbers were supplied from a Halloween promotional prize drawing held at the store. Adkins then got busy on the phone, calling customers and inviting them to the session.



"We were looking for a turnout of about 15 people, which is a manageable group," says Adkins. "But we got commitments from three times that number, because normally only one in three actually show up for this type of session."

The final turnout was 12 people—seven women and five men. "We were pleased with this ratio, since one of the things we wanted to find out was what attracted female and male customers to our store," Adkins says.

The session was scheduled at 7 p.m. on a Tuesday evening (a less busy and calmer time, Adkins says) and set up in an upstairs room at the store. Participants were told the session would take half an hour; it lasted 45 minutes longer because customers got interested and involved in the discussion, according to Adkins.

Participants were served coffee, fresh bakery goods and a sampling of meats and cheeses from the deli. At the conclusion, each received a sample tray of meats, cheeses and baked goods.

The presence of John Sweeney, head of the division, at the session also was a big help, Adkins says. "It signified to the group that the top man took a personal interest in what they thought."

Sweeney's set the direction of the discussion using a 20-page questionnaire. Questions included frequency of store visits, reasons for shopping there (fuel, store products) and how the customers evaluated the products offered and the service they received.

Here are some of the key findings that emerged from the focus session:

- Sweeney's wanted customer input on what to do with a 16-ft. section of shelving that was being "re-merchandised." This had been a video section that was being closed because of poor sales. "Group participants told us that a section offering gift wrapping and all-occasion cards would be a good idea; more desirable than some of the things we had considered putting there," Adkins recalls.
- Solving the mystery of the "invisible" deli. "Customers told us they had to walk the entire floor to find the deli, which was on the left side of the store away from the entrance. As a result, we moved the sandwich case close to the cashier's counter, redirecting customer traffic toward the deli section."
- Participants suggested having lot attendants available on the islands—especially during winter months—to help them pump gasoline and pay for fuel purchases more quickly. Sweeney's is now testing a "gas express" system, putting an attendant on the islands during peak hours to assist customers—especially the handicapped—and to promote oil sales.
- The store's bakery muffins were "too large," customers said. "So now we serve smaller muffins, but take in the same amount of profit on them," Adkins says.
- Finally, Adkins says, the focus group confirmed what most knowledgeable C-store operators already know: that fast, friendly service is a more important factor than price in attracting customers to your stores.

Employee Incentives

Two Midwest companies—Crystal Flash Petroleum Corp., Indianapolis, Ind., and Crystal Flash Co., Grand Rapids, Mich.—are finding employee incentive programs to be an effective tool for cutting costs and boosting store profitability.

(The two companies are separate corporate entities, although owned and managed by members of the same founding family.)

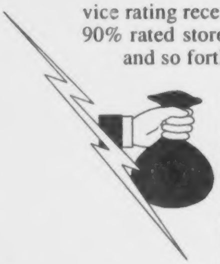
Crystal Flash (Indiana), operator of 26 gasoline/C-store outlets, introduced a novel approach to improving store employee productivity about a year ago. The incentive program goes under the name "Lightning Bolt."

According to Greg Cobb, vice president of operations, the program is designed to reward employees of the company's top performing stores in the areas of inventory control and lowest level of shortages. Employees at the five top-rated stores in each category receive a specified number of "lightning bolt" credits which they can redeem for gifts, merchandise or motor fuel.

"Ten bolts have a redeemable value of $1, which the employee can apply to the purchase of his or her choice—a dollar's worth of gasoline, for example," Cobb points out. "An employee can also 'buy' a day off with 400 bolts."

The lightning bolts are awarded on a sliding scale, according the the store's performance ranking. If a store is ranked number one in inventory, for example, employees receive 150 bolts. Number two store employees get 80 bolts; number three 60; number four 40; and number five 20.

Bolts are also awarded for a store's customer service proficiency—promptness, friendliness, etc. Stores are rated by mystery shoppers hired from an outside firm. Stores receiving a 100% service rating receive 200 bolts; a 90% rated store gets 90 bolts; and so forth.



Cobb says the program is still too new to assess its overall effectiveness yet, but it appears to be helping Crystal Flash's efforts to reduce employee turnover by 25%. "Employees are responding well to the program and they're more aware now of the importance of inventory and cash controls."

The incentive spur at Crystal Flash (Michigan), which operates 27 C-stores, is hooked to the individual store manager's performance.

Crystal Flash president Thomas Fehsenfeld describes the program as a commission system. "Our store managers are paid a base salary, plus a percentage of gasoline and store revenues," he says.

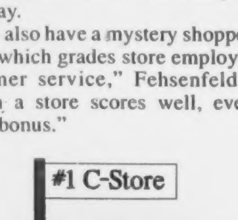
In addition to cents-per-gallon commission, managers receive 50% of the gross margin on store sales. From this figure, controllable expenses such as labor, supplies, utilities and shortages are subtracted.

"The system has worked well for us," Fehsenfeld says. "The managers manage themselves. We're not constantly on their backs to produce. They're very good at keeping costs in line and shortages to a minimum, so overall we end up with a lower cost of operation." And we also achieve a good cost ratio on the sale of gasoline."

According to Fehsenfeld, Crystal Flash managers take in about 50% above the industry average in income for store managers—a range of $25,000 to $40,000 a year. "There's virtually no turnover in our manager ranks, either—maybe one or two per year," he says.

For employees, Crystal Flash has a quarterly bonus program. Based on company profits, the bonus normally averages about 12% of the employee's base pay.

"We also have a mystery shopper program, which grades store employees on customer service," Fehsenfeld says. "When a store scores well, everyone gets a bonus."



October 1990

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New Choices in Trucks and Trailers
Regions: Jobbers Sound Off on Oil Spike
C-Stores Score With Oddball Merchandising

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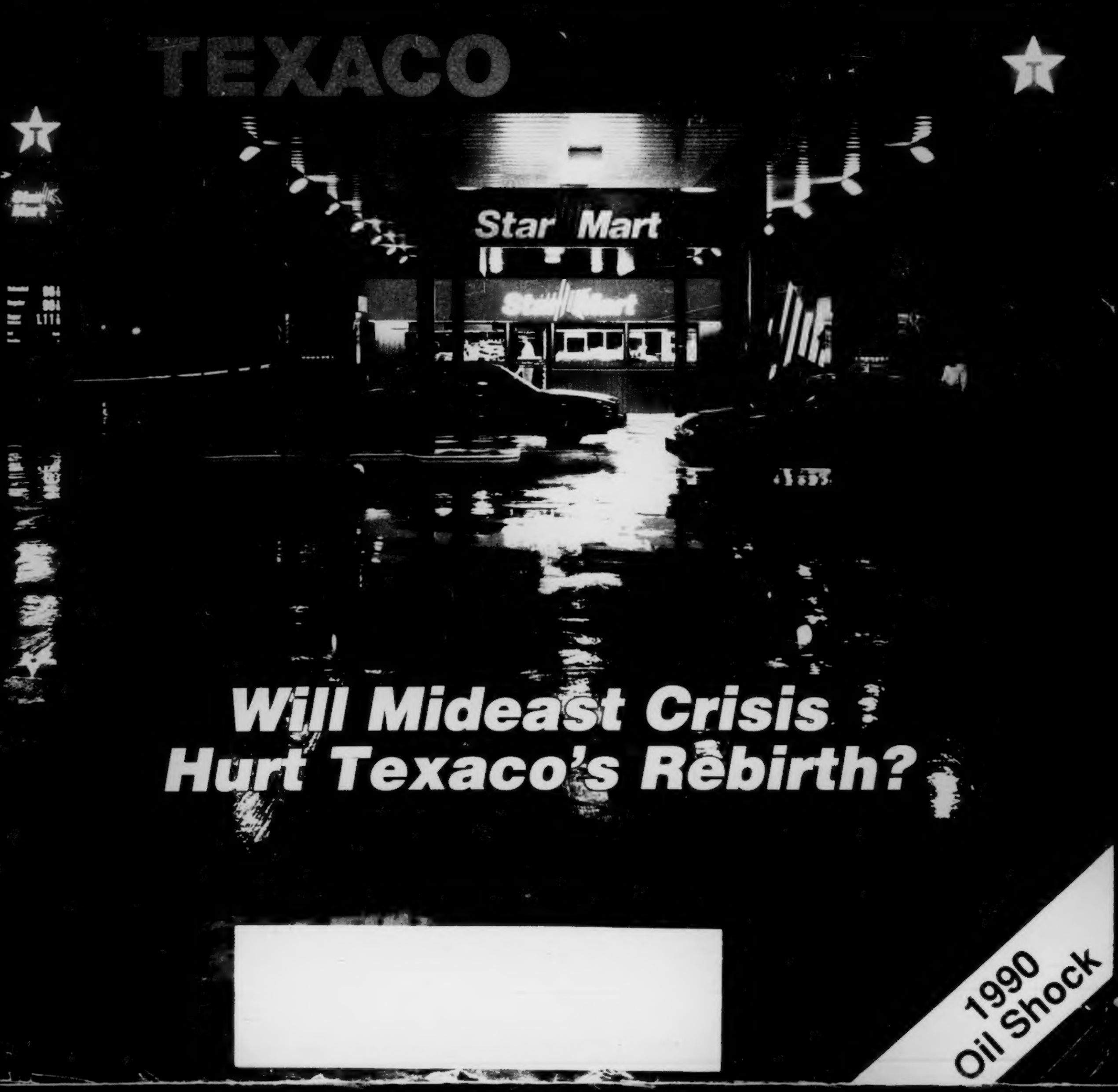
TEXACO
Star Mart
Star Mart

Will Mideast Crisis Hurt Texaco's Rebirth?

1990 Oil Shock

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Editor's Viewpoint

There's never a dull moment in the petroleum industry. Iraq's invasion of Kuwait not only rocked the world's oil industry, but it threw our editorial department into a tailspin, too.

We received dozens, and I mean dozens, of calls from various media organizations. Reporters from the *New York Times, Chicago Tribune* and *Wall Street Journal*, to name a few.

For a couple of weeks I was confused about what my job title was: teacher or editor. I listened—with as much composure as I could summon—as reporters tried to bait me (and the industry) with buzz words such as "gouging, hoarding, stealing and cheating." So what did I do? Diligently and patiently, I tried to articulate how a free market works. I'm sure many of you have been through the same journalistic wringer.

I attempted to explain to these intrepid reporters why prices jumped and how the spot and futures markets now play such a significant role in the industry's pricing volatility. After a half a dozen interviews, it occurred to me that the oil industry had made very little, if any, headway during the past two decades in trying to explain to the media and to the public how the industry really works. I guess the industry will have to try harder to get its story across.

On a more positive note, even before the Persian Gulf exploded, one oil company decided that if the Berlin Wall could come down so could their "wall of silence"—figuratively speaking, of course. I recently had the pleasure of meeting with Texaco officials and interviewing them for this month's cover story. Here's a company that had acquired a rep, deserved or not, as being somewhat standoffish with the press. But, I'm happy to report, Texaco was open, candid, informative and answered every question I posed.

This interview, and this story, is long overdue. I hope this is the beginning of many more frank discussions with them as well as with other oil companies.

Meanwhile, I'd like to call your attention to a couple of editorial departments *NPN* has added this issue: a Letters to the Editor page and a C-store column.

Occasionally, we receive letters from readers commenting on articles and issues we cover in *NPN* and we think many of these comments should be shared with our readers. As you will read on page 124, my cover story on Stage II in August already has sparked a lot of response—some pro, some con.

Our monthly convenience store column will be written, on a revolving basis, by several top notch consultants in the industry.

These additions are only the beginning in our overall objective to enhance *NPN's* tradition of excellence. We're really pumped up about the changes that are still to come and hope you will share in this excitement. *—Peggy Smedley*

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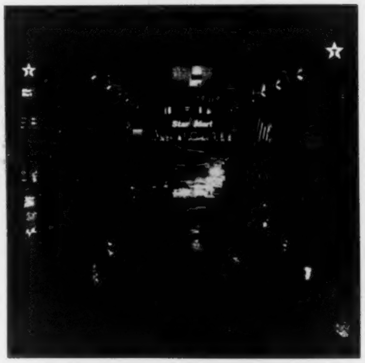

Texaco's struggle to overcome a series of misfortunes, including a takeover attempt and a spell in Chapter 11, appears headed for success—if events in the Persian Gulf don't throw the company another curve.

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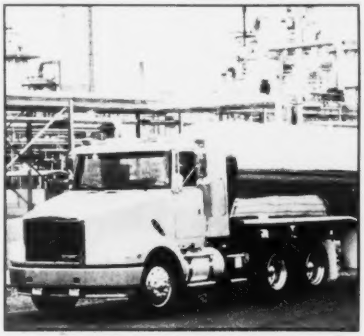

Today's petroleum marketers have a bigger choice than ever in truck, tank-truck and tank-trailer options. Here's a look at the trends in truck design and new developments in the truck market.

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THE W E HOUSE

Iraq's sudden takeover of Kuwait rocked the oil industry—and the entire world—back on its heels. Here's a special report on how marketers, oil companies and industry analysts view the oil shock of 1990.

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• TRENDS

The Months Ahead: Rough Times Face Oil Marketers Everywhere

It used to be in the days of tall ships and billowing sails that when howling winds and heaving waves overwhelmed them unexpectedly at sea, the watchword for all hands was: "Batten down the hatches, boys, we're in for a blow; and there's no getting away from it now. Only the Good Lord Himself knows where we're going to wind up this time."

Oil men aren't sailors, of course, so this is simply a comparable analogy of the very nasty situation that overtook the petroleum industry in August, when Iraq squashed Kuwait and defied the world and, in the trappings, the United Nations couldn't do anything about it.

In a marketplace as volatile as petroleum's, where (simple analogy again) muted sneezes can often be misinterpreted as violent coughs, reaction was predictable. Prices began to move upwards, and by the end of the month crude and products looked like they were on runaway courses. Record highs for gasoline pump retails and distillate fuel oils seemed very likely prospects by midwinter.

It is true, of course, that the suppliers triggered the product price panic by saying they were guided by replacement values, not current inventories, and boosted wholesales within 24 hours of the invasion. That caused leap-frog price hikes for gasoline and, almost unnoticed because they were out of season, similar jumps for home-heating oils. The military buildup in August and September put comparable pressures on jet fuel supplies and prices.

A point to remember is that unlike the old days the current marketplaces (and specifically, prices) are dominated more by outside speculators than by oil men. The speculators moved in greedily, aided and abetted by the brokers who took advantage of every kernel of news or non-news to goose and generate market reaction, almost like throwing kerosine on the fire. Brokers make money by the bucketsful for themselves and their clients in the futures markets. An analomy to emphasize the point: Futures markets raced headily 15¢ to 20¢ gal. above the spot market.

Washington, by the end of August, intervened and summoned the major oil companies to the capitol to explain what happened.

There isn't any easy answer now, nor will there be when peace and quiet return. The fearsome specter that wartime hostilities would resurrect the allocation and price controls of the late '70s and early '80s only compounded the nastiness of the possibilities this fall.

One thing is certain: The oil industry is going to take another image and public relations bath and bashing this winter, especially the fuel oil segment because it will be further out on the firing line than the gasoline business in the months immediately ahead.

Heaven forbid that December or January should experience another cold siege like it did nine months ago. If that frigid period could produce record highs for home heating oil in its own right, Lord only knows what it'll be like after the first of the new year when nominal consumer bases cannot help but be much higher.

It can be anticipated that all product marketers—gasoline, fuel oil, kerosine, jet fuel, propane and even resid—are going to have to take their lumps this winter. Only a fast resolution of the Middle East crisis, which doesn't seem likely at this point, can salvage the darkening vista. But even if the worst possible scenarios never come about and bloodshed on the battlefields is avoided, it will be months, maybe years, before all the troops and war machines are home. It is doubtful that product prices will ever get back to their so-called "normals." October's traditional hobgoblins simply came early this year and probably won't go away until the mid-'90s at the earliest.

—J. Richard Shaner

• MARKETPLACE AT A GLANCE

AVERAGE GASOLINE PRICES IN THE U.S. (per gal.)

July	Gasoline (All types)	Leaded Regular	Unleaded Regular	Unleaded Premium
U.S. City Avg.	$1.139	$1.089	$1.084	$1.272
Regions				
Northeast	1.155	1.076	1.075	1.293
North Central	1.128	1.073	1.084	1.283
South	1.118	1.055	1.055	1.232
West	1.163	1.100	1.137	1.318

Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

STOCKS (Add 000 bbl.)

	8/31/90	9/1/89
Gasoline (Total)	210,459	217,725
Gasoline (Unleaded)*	162,252	156,501
Jet Kerosine	41,982	41,711
Distillates	126,671	116,792
Residual	49,229	42,156

**Included in gasoline total.*
Source: American Petroleum Institute.